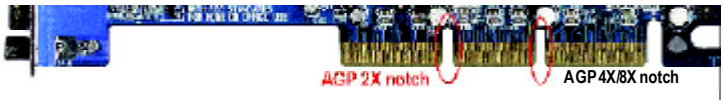
When you installing AGP card, please make sure the following notice is fully understood and practiced. If your AGP card has "AGP 4X/8X(1.5V) notch"(show below), please make sure your AGP card is AGP 4X/8X(1.5V).



Caution: AGP 2X(3.3V) card is not supported by VIA® KT600. You might experience system unable to boot up normally.
Please insert an AGP 4X/8X(1.5V) card

Example 1: Diamond Vipper V770 golden finger is compatible with 2X/4X mode AGP slot. It can be switched between AGP 2X(3.3V) or 4X (1.5V) mode by adjusting the jumper. The factory default for this card is 2X(3.3V).
The GA-7VT600 1394 motherboards might not function properly, if you install this card without switching the jumper to 4X(1.5V) mode in it.

Example 2: Some ATi Rage 128 Pro graphics cards made by "Power Color", the graphics card manufacturer & some SiS 305 cards, their golden finger is compatible with 2X(3.3V)/4X(1.5V) mode AGP slot, but they support 2X(3.3V) only.
The GA-7VT600 1394 motherboards might not function properly, If you install this card in it.

Note : Although Gigabyte's AG32S(G) graphics card is based on ATi Rage 128 Pro chip, the design of AG32S(G) is compliance with AGP 4X(1.5V) specification. Therefore, AG32S (G)will work fine with VIA® KT600 based motherboards.

Before you install PCI cards, please remove the Dual BIOS label from PCI slots if there is one.



- **The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.**
- **Third-party brands and names are the property of their respective owners.**
- **Please do not remove any labels on motherboard, thismay void the warranty of this motherboard.**
- **Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.**



WARNING: *Never run the processor without the heatsink properly and firmly attached. PERMANENT DAMAGE WILL RESULT!*

Mise en garde : *Ne faites jamais tourner le processeur sans que le dissipateur de chaleur soit fix correctement et fermement. UN DOMMAGE PERMANENT EN RÉSULTERA !*

Achtung: *Der Prozessor darf nur in Betrieb genommen werden, wenn der W rmeableiter ordnungsgem ß und fest angebracht ist. DIES HAT EINEN PERMANENTEN SCHADEN ZUR FOLGE!*

Advertencia: *Nunca haga funcionar el procesador sin el disipador de calor instalado correcta y firmemente. ¡SE PRODUCIRÁ UN DAÑO PERMANENTE!*

Aviso: *Nunca execute o processador sem o dissipador de calor estar adequado e firmemente conectado. O RESULTADO SERÁ UM DANO PERMANENTE!*

警告： *将散热器可靠地安装到处理器上之前，不要运行处理器，这将导致永久损坏处理器!*

警告: *將散熱器可靠地安裝到處理器上之前，不要運行處理器，這將導致永久損壞處理器!*

경고: *에드방드를 제대로 또 단단히 부착시키지 않은 채 프로세서를 구동시키지 마십시오. 영구적 고장이 발생합니다!*

警告: *永久的な損傷を防ぐため、ヒートシンクを正しくしっかりと取り付けるまでは、プロセッサを動作させないようにしてください。*

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Träding GMbH
Ausschlager Weg 41, 1F, 20537 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

Mother Board
GA-7VT600 1394
is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial,scientific and medical (ISM high frequency equipment	☐ **EN 61000-3-2*** ☒ **EN 60555-2**	Disturbances in supply systems cause by household appliances and similar electrical equipment "Harmonics"
☐ **EN 55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN 61000-3-3*** ☒ **EN 60555-3**	Disturbances in supply systems cause by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55014**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☒ **EN 50081-1** ☒ **EN 50082-1**	Generic emission standard Part1: Residual commercial and light industry Generic immunity standard Part1: Residual commercial and light industry
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55081-2**	Generic emission standard Part2: Industrial environment
☐ **EN 55020**	Immunity from radio interferences of broadcast receivers and associated equipment	☐ **EN 55082-2**	Generic emission standard Part2: Industrial environment
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	☐ **ENV 55104**	Immunity requirements for household appliances tools and similar apparatus
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or **distribution** from sound and television signals	☐ **EN50091-2**	EMC requirements for uninterruptible power systems (UPS)
☒ **CE marking**		(EC conformity marking)	

The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electrical bussiness equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirments for uninterruptible power systems (UPS)

Manufacturer/Importer

Date : June 16, 2003

Signature: *Timmy Huang*
Name: Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



Responsible PartName: **G.B.T. INC. (U.S.A.)**

Address: **17358 Railroad Street**
City of Industry, CA 91748

Phone/Fax No: (818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: **Motherboard**

Model Number: GA-7VT6001394

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109 (a),Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any inference received, including that may cause undesired operation.

Representative Person's Name: ERIC LU

Signature: *Eric Lu*

Date: June 16 ,2003

7VT600 1394

AMD Socket A Processor Motherboard

USER'S MANUAL

AMD Athlon™/ Athlon™ XP / Duron™ Socket A Processor Motherboard

Rev. 1001

12ME-7VT600F-1001

English

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English

Item Checklist

- ☑ The 7VT600 1394 motherboard
- ☑ CD for motherboard driver & utility
- ☑ Quick PC Installation Guide
- ☑ The 7VT600 1394 user's manual
- ☑ Motherboard Settings Label
- ☑ I/O Shield
- ☑ SATA cable x 2
- ☑ IDE cable x 1/ Floppy cable x 1
- ☑ USB & IEEE 1394 Cable x 1



Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.

Installing the motherboard to the chassis…

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

Chapter 1 Introduction

Features Summary

Form Factor	• 30.5cm x 24.4cm ATX size form factor, 4 layers PCB.
CPU	• Socket A processor AMD Athlon™/Athlon™ XP/ Duron™ (K7) 128K L1 & 512K/256K/64K L2 cache on die 200/266/333/400MHz FSB and DDR bus speeds • Supports 1.4GHz and faster
Chipset	• VIA KT600 Memory/AGP/PCI Controller (PAC) • VIA VT8237 Integrated Peripheral Controller (PSIPC)
Memory	• 3 184-pin DDR sockets • Supports DDR DRAM PC2100/PC2700/PC3200 • Supports up to 3.0GB DDR (Max) • Supports only 2.5V DDR DIMM
I/O Control	• IT8705
Slots	• 1 AGP slot supports 8X/4X/2X mode(1.5V) & AGP 3.0 Compliant • 5 PCI slots supports 33MHz & PCI 2.2 compliant
On-Board IDE	• 2 IDE controllers provides IDE HDD/CD-ROM (IDE1, IDE2) with PIO, Bus Master (Ultra DMA33/ATA66/ATA100/ATA133) operation modes.
Hardware Monitor	• CPU/System Fan Revolution detect • CPU/System temperature detect • System Voltage Detect • Thermal shutdown function
On-Board Peripherals	• 1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes. • 1 Parallel port supports Normal/EPP/ECP mode • 2 Serial port (COMA & COMB) • 8 x USB 2.0/1.1 (4 by cable) • 3 x IEEE1394 by cable • 1 IrDA connector for IR

to be continued.....

English

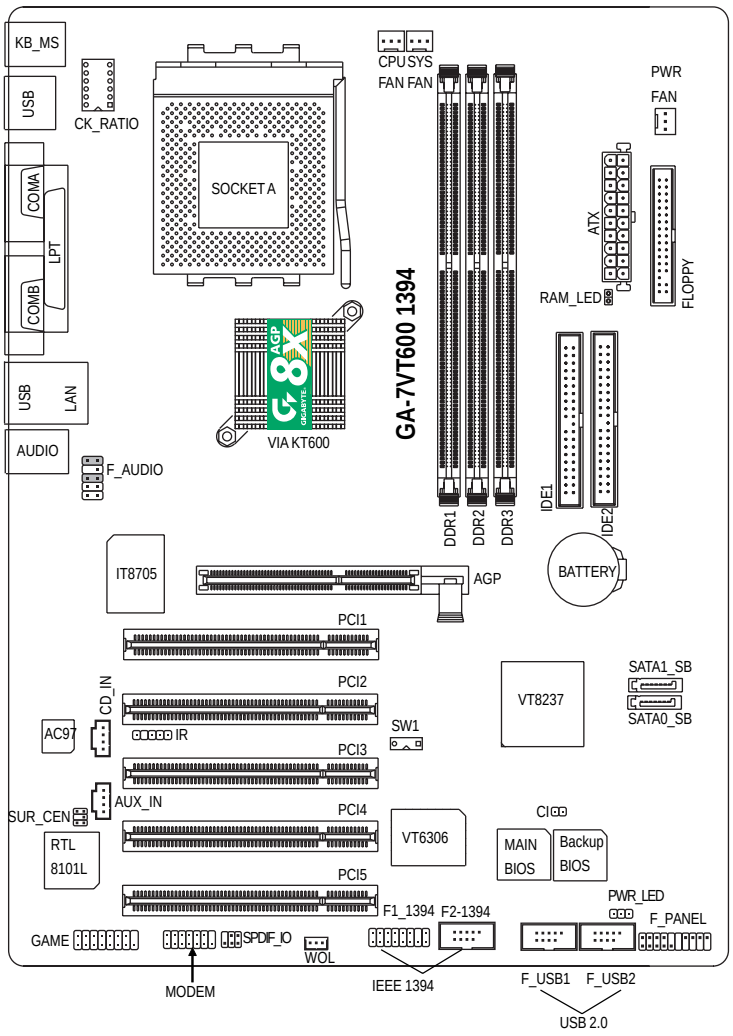
On-Board Sound	• Realtek ALC655 CODEC • Supports Jack Sensing function • Line Out / 2 front speaker • Line In / 2 rear speaker(by s/w switch) • Mic In / center& subwoofer(by s/w switch) • SPDIF Out /SPDIF In • CD In / AUX In / Game port
On-Board USB 2.0	• Built in VIA VT8237 Chipset
On-Board SATA RAID *	• Built in VT8237(Note1) • Supports Disk striping (RAID0) or DISK Mirroring (RAID1) • Supports UDMA up to 150 MB/sec • AIL UDMA and PIO Modes • Up to 2 SATA Device • ACPI and ATA/ATAPI6
On-Board LAN	• RealTek RTL8101L • 1 RJ45 port
On-Board IEEE1394	• VT6306
PS/2 Connector	• PS/2 Keyboard interface and PS/2 Mouse interace
BIOS	• Licensed Award BIOS • Supports Dual BIOS /Q-Flash
Additional Features	• PS/2 Keyboard power on by password,PS/2 Mouse power on • External Modem wake up • STR(Suspend-To-RAM) • Wake on LAN (WOL) • AC Recovery • Poly fuse for keyboard over-current protection • USB KB/Mouse wake up from S3 • Support Thermal shutdown function • Supports @BIOS • Supports EasyTune 4
Overclocking	• Over Voltage (DDR/AGP/CPU) by BIOS • Over Clock (DDR/AGP/CPU/PCI) by BIOS

(Note 1) It is recommended to use SATA (1.5Gb/s) hard disks.

' ' If you want to find the detailed information for SATA RAID setup installation, please download "VT8237_SATA_Manual.pdf" at "http:\\www.gigabyte.com.tw"*

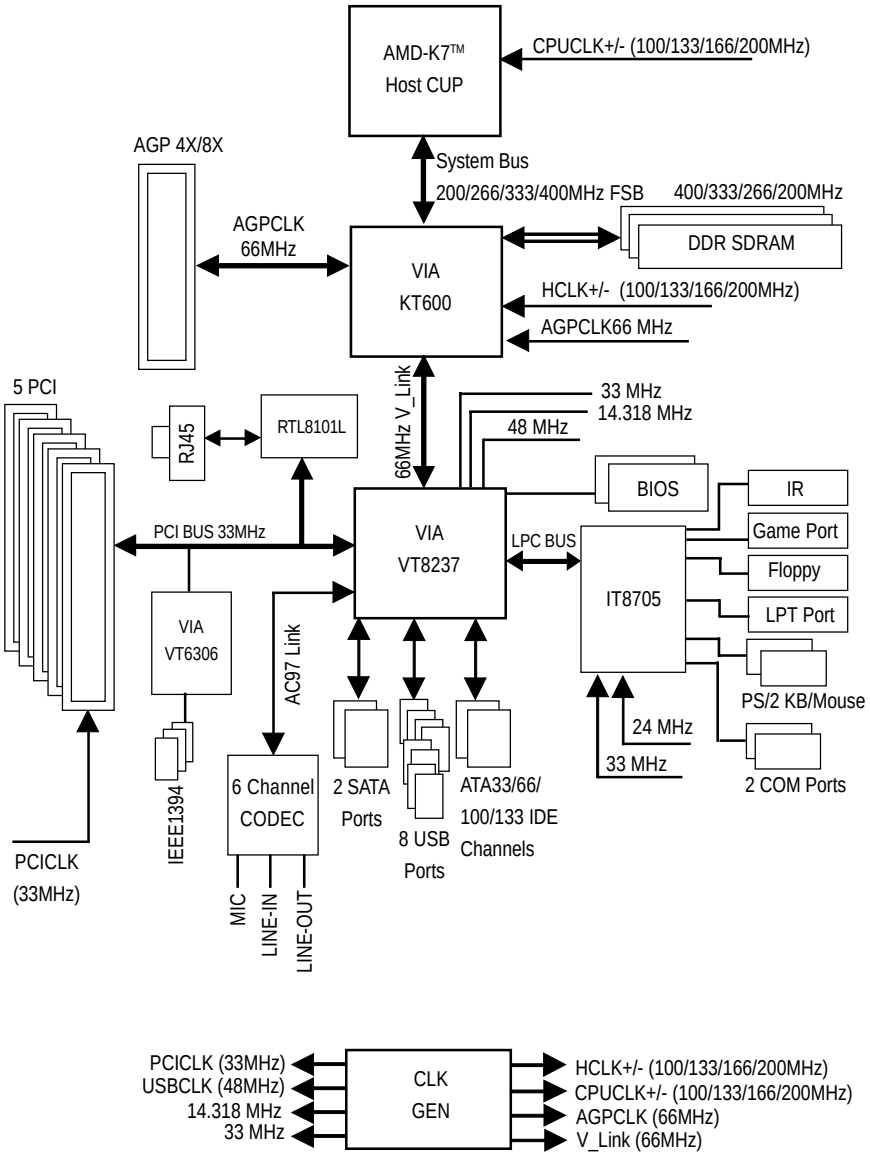
Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Chipsets,SDRAM,Cards….etc.

7VT600 1394 Motherboard Layout



English

Block Diagram



English

Chapter 2 Hardware Installation Process

To set up your computer, you must complete the following steps:

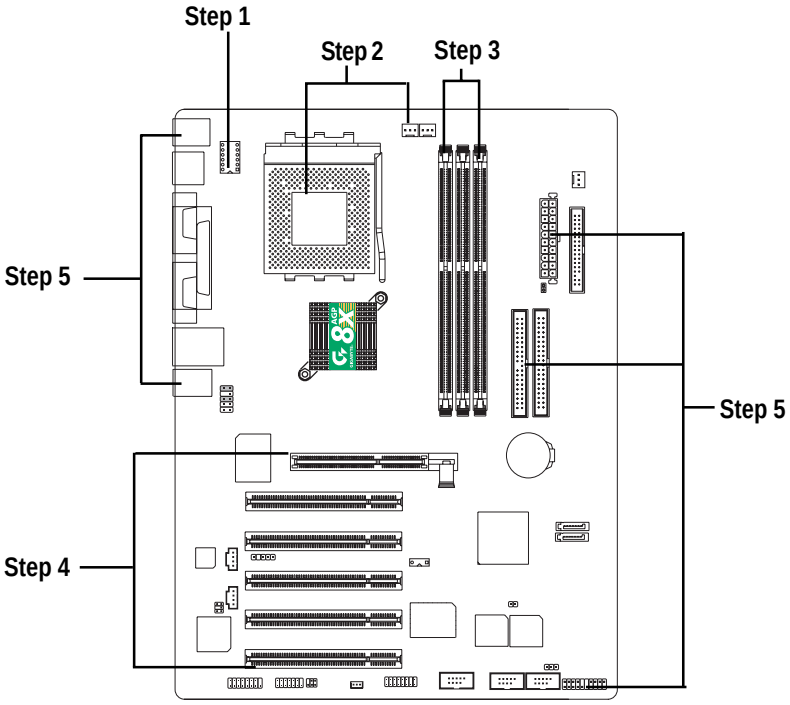
Step 1- Set Dip Switch (CK_RATIO) and system Switch (SW1)

Step 2- Install the Central Processing Unit (CPU)

Step 3- Install memory modules

Step 4- Install expansion cards

Step 5- Connect ribbon cables, cabinet wires, and power supply



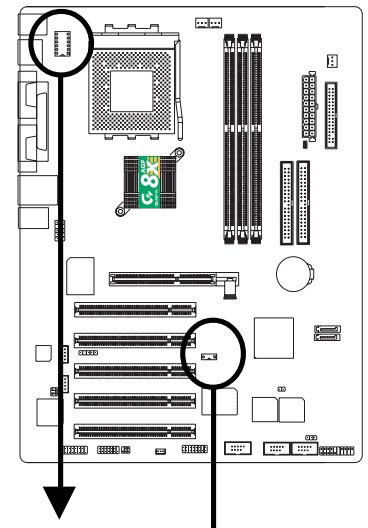
Congratulations you have accomplished the hardware installation!
Turn on the power supply or connect the power cable to the power outlet. Continue with the BIOS/software installation.

English

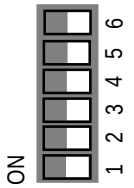
Step 1: Install the Central Processing Unit (CPU)

Step1-1: CPU Speed Setup

The clock ratio can be switched by CK_RATIO and refer to below table.



Default Setting :
Auto (X X X X X X)



CK_RATIO

O: ON / X :OFF

ON OFF

SW1

Default Setting: 100MHz

SW1	CPU CLOCK	
	100MHz	AUTO
1	ON	OFF

100MHz : Fix FSB 200MHz CPU
Auto : Support FSB 266/333/400 MHz CPU

⚠ You must set SW1 to 100MHz when you used FSB 200MHz CPU.

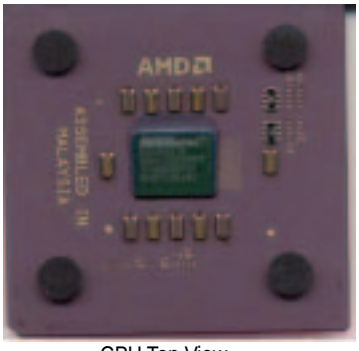
CLK_RATIO O: ON / X :OFF

RATIO	1	2	3	4	5	6
AUTO (Default)	X	X	X	X	X	X
5x	O	O	X	O	O	O
5.5x	X	O	X	O	O	O
6x	O	X	X	O	O	O
6.5x	X	X	X	O	O	O
7x	O	O	O	X	O	O
7.5x	X	O	O	X	O	O
8x	O	X	O	X	O	O
8.5x	X	X	O	X	O	O
9x	O	O	X	X	O	O
9.5x	X	O	X	X	O	O
10x	O	X	X	X	O	O
10.5x	X	X	X	X	O	O
11x	O	O	O	O	O	O
11.5x	X	O	O	O	O	O
12x	O	X	O	O	O	O
12.5x	X	X	O	O	O	O
13x	O	O	X	O	X	O
13.5x	X	O	X	O	X	O
14x	O	X	X	O	X	O
15x	O	O	O	X	X	O
16x	O	X	O	X	X	O
16.5x	X	X	O	X	X	O
17x	O	O	X	X	X	O
18x	X	O	X	X	X	O

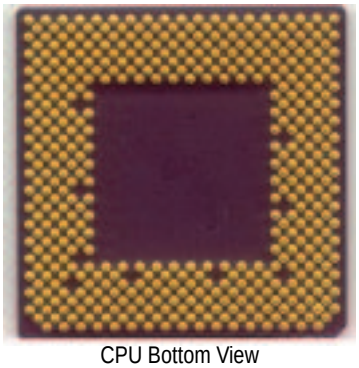
Note: In order to BIOS can auto detecting when your CPU mutiplier over 18x, please adjust mutiplier swich in CK Raito to "AUTO."

Step1-2: CPU Installation

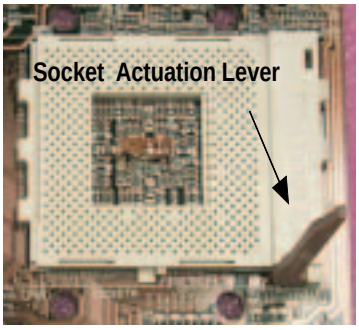
Before installing the processor, adhere to the following warning:
1.Please make sure the CPU type is supported by the motherboard.
2.If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.



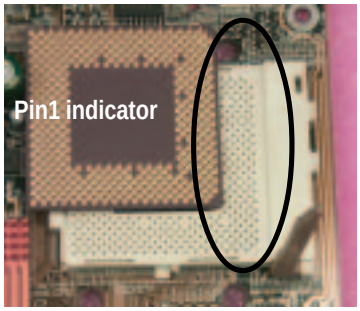
CPU Top View



CPU Bottom View



1. Pull up the CPU socket lever and up to 90-degree angle.



2. Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Then insert the CPU into the socket.

English

Step1-3:CPU Cooling Fan Installation

CAUTION

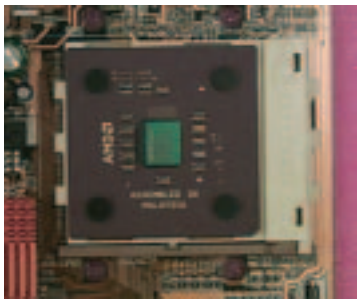
Before installing the CPU Heat Sink , adhere to the following warning:

1. Please use AMD approved cooling fan.

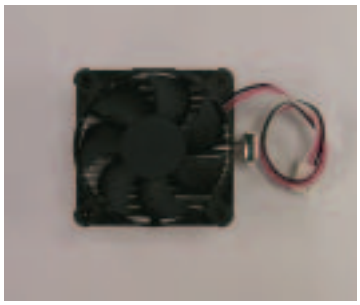
2. We recommend you to apply the thermal paste to provide better heat conduction between your CPU and Cooling Fan.

3. Make sure the CPU fan power cable is plugged in to the CPU fan connector, this completes the installation.

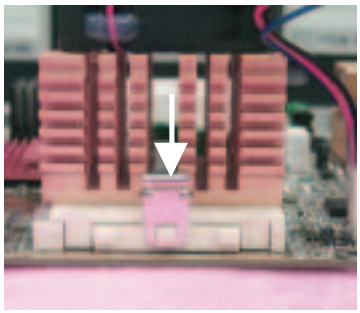
Please refer to CPU cooling fan user's manual for more detail installation procedure.



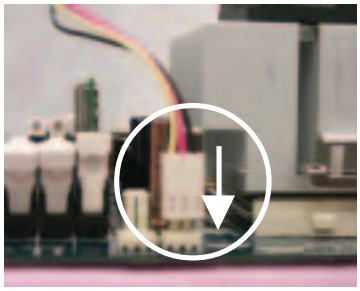
1. Press down the CPU socket lever and finish CPU installation.



2. Use qualified fan approved by AMD.



3. Fasten the cooling fan supporting-base onto the CPU socket on the main-board.



4. Make sure the CPU fan is plugged to the CPU fan connector, than install complete.

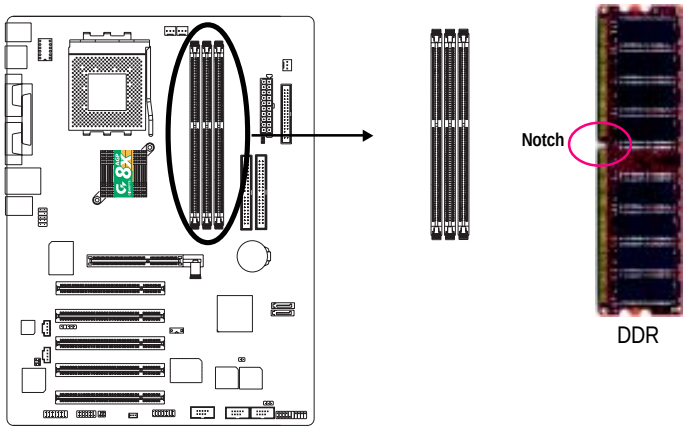
Step 2: Install memory modules

CAUTION

Before installing the memory modules, adhere to the following warning:

1. When DIMM LED is ON, do not install / remove DIMM from socket.
2. Please note that the DIMM module can only fit in one direction due to the one notch. Wrong orientation will cause improper installation. Please change the insert orientation.

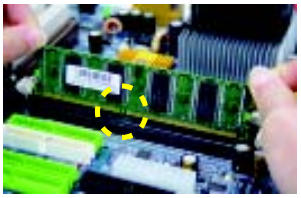
The motherboard has 3 dual inline memory module(DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.



Support Unbuffered DDR DIMM Sizes type:

64 Mbit (2Mx8x4 banks)	64 Mbit (1Mx16x4 banks)	128 Mbit(4Mx8x4 banks)
128 Mbit(2Mx16x4 banks)	256 Mbit(8Mx8x4 banks)	256 Mbit(4Mx16x4 banks)
512 Mbit(16Mx8x4 banks)	512 Mbit(8Mx16x4 banks)	
Total System Memory (Max3GB)		

English



1. The DIMM slot has a notch, so the DIMM memory module can only fit in one direction.



2. Insert the DIMM memory module vertically into the DIMM slot. Then push it down.



3. Close the plastic clip at both edges of the DIMM slots to lock the DIMM module.
   Reverse the installation steps when you wish to remove the DIMM module.

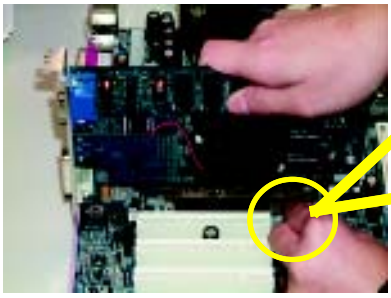
DDR Introduction

Established on the existing SDRAM industry infrastructure, DDR (Double Data Rate) memory is a high performance and cost-effective solution that allows easy adoption for memory vendors, OEMs and system integrators.

DDR memory is a sensible evolutionary solution for the PC industry that builds on the existing SDRAM infrastructure, yet makes awesome advances in solving the system performance bottleneck by doubling the memory bandwidth. DDR SDRAM will offer a superior solution and migration path from existing SDRAM designs due to its availability, pricing and overall market support. PC2100 DDR memory (DDR266) doubles the data rate through reading and writing at both the rising and falling edge of the clock, achieving data bandwidth 2X greater than PC133 when running with the same DRAM clock frequency. With peak bandwidth of 2.664GB per second, DDR memory enables system OEMs to build high performance and low latency DRAM subsystems that are suitable for servers, workstations, high-end PC's and value desktop SMA systems. With a core voltage of only 2.5 volts compared to conventional SDRAM's 3.3 volts, DDR memory is a compelling solution for small form factor desktops and notebook applications.

Step 3: Install expansion cards

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Remove your computer's chassis cover, necessary screws and slot bracket from the computer.
3. Press the expansion card firmly into expansion slot in motherboard.
4. Be sure the metal contacts on the card are indeed seated in the slot.
5. Replace the screw to secure the slot bracket of the expansion card.
6. Replace your computer's chassis cover.
7. Power on the computer, if necessary, setup BIOS utility of expansion card from BIOS.
8. Install related driver from the operating system.



AGP Card

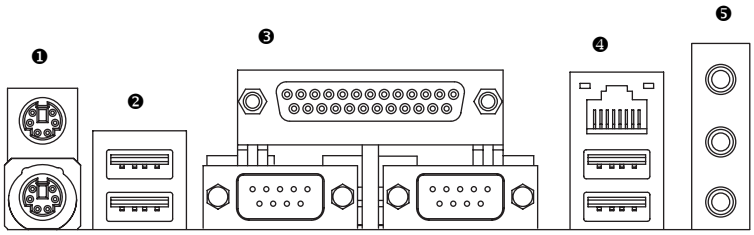


Please carefully pull out the small white-drawable bar at the end of the AGP slot when you try to install/ Uninstall the AGP card. Please align the AGP card to the onboard AGP slot and press firmly down on the slot .Make sure your AGP card is locked by the small white- drawable bar.

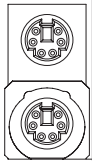
English

Step 4: Connect ribbon cables, cabinet wires, and power supply

Step4-1 : I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse Connector

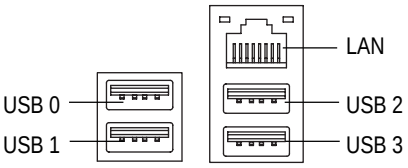


PS/2 Mouse Connector (6 pin Female)

PS/2 Keyboard Connector (6 pin Female)

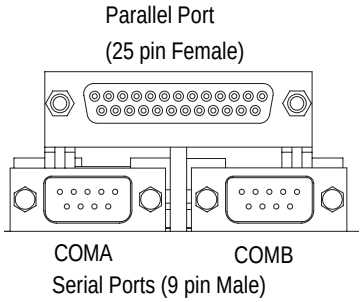
➢ This connector supports standard PS/2 keyboard and PS/2 mouse.

❷/❹ USB/LAN Connector



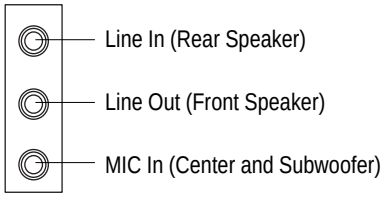
➢ Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker..etc. Have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

❸ Parallel Port and Serial Ports (COMA/COMB)



➢ This connector supports 2 standard COM ports and 1 Parallel port. Device like printer can be connected to Parallel port ; mouse and modem etc can be connected to Serial ports.

❺ Audio Connectors



➢ After install onboard audio driver, you may connect speaker to Line Out jack, microphone to MIC In jack. Device like CD-ROM,walkman etc. can be connected to Line-In jack.

Please note:

You are able to use 2-/4-/6-channel audio feature by S/W selection.

If you want to enable 6-channel function, you have 2 choose for hardware connection.

Method1:

Connect "Front Speaker" to "Line Out"
Connect "Rear Speaker" to "Line In"
Connect "Center and Subwoofer" to "MIC Out ".

Method2:

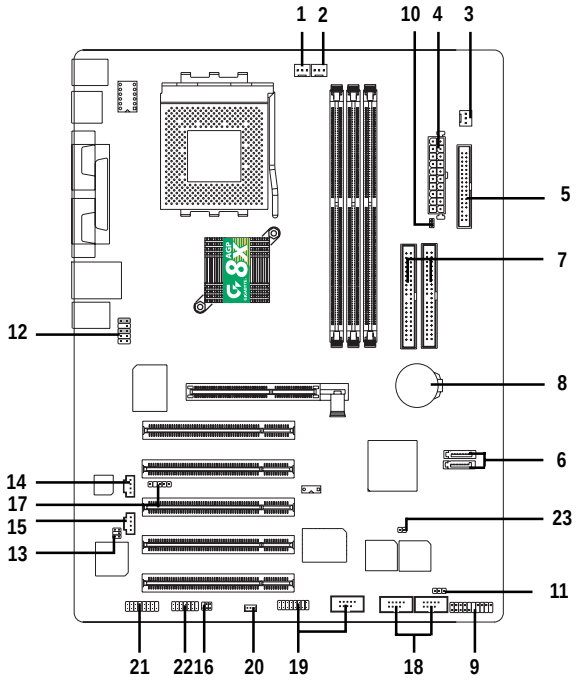
You can refer to page 25, and contact your nearest dealer for optional SUR_CEN cable.



If you want the detail information for 2-/4-/6-channel audio setup installation, please refer to page 70.

English

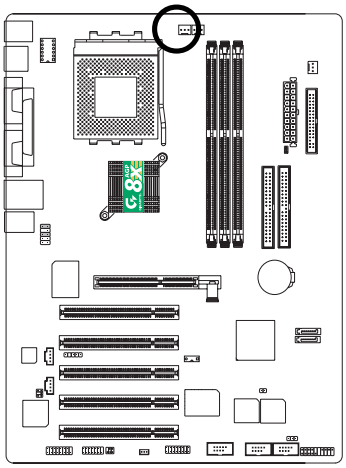
Step4-2 : Connectors Introduction



1) CPU_FAN	13) SUR_CEN
2) SYS_FAN	14) CD_IN
3) PWR_FAN	15) AUX_IN
4) ATX_POWER	16) SPDIF_IO
5) FDD	17) IR
6) SATA0_SB/SATA1_SB	18) F_USB1/F_USB2
7) IDE1/IDE2	19) F1_1394/F2_1394
8) BATTERY	20) WOL
9) F_PANEL	21) GAME
10) RAM_LED	22) MODEM
11) PWR_LED	23) CI
12) F_AUDIO	

1) CPU_FAN (CPU FAN Connector)

Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating.The CPU fan connector supports Max. current up to 600 mA.

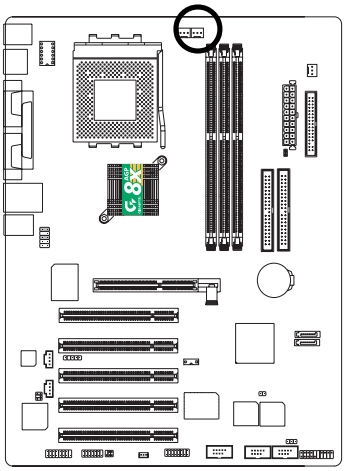




Pin No.	Definition
1	GND
2	+12V
3	Sense

2) SYS_FAN (System FAN Connector)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.



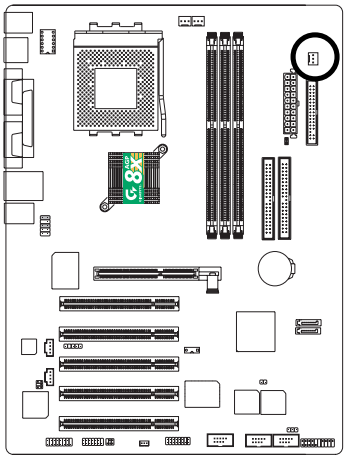


Pin No.	Definition
1	GND
2	+12V
3	Sense

English

3) PWR_FAN (Power Fan Connector)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.

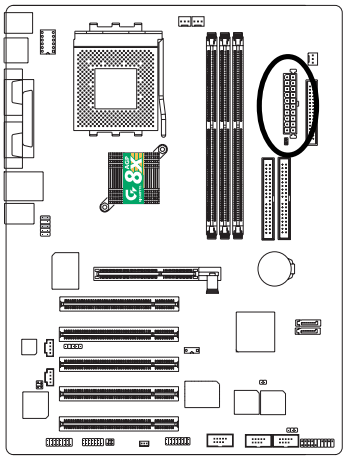


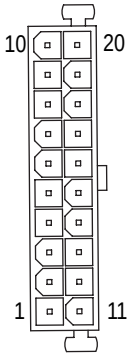


Pin No.	Definition
1	GND
2	+12V
3	Sense

4) ATX_POWER (ATX Power)

AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.

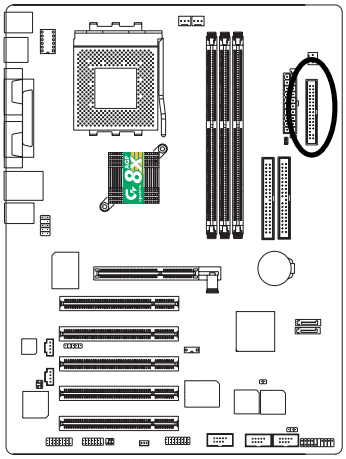


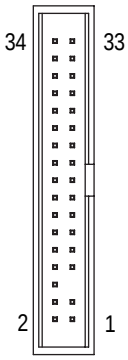


Pin No.	Definition
1	3.3V
2	3.3V
3	GND
4	VCC
5	GND
6	VCC
7	GND
8	Power Good
9	5V SB(stand by +5V)
10	+12V
11	3.3V
12	-12V
13	GND
14	PS_ON(softOn/Off)
15	GND
16	GND
17	GND
18	-5V
19	VCC
20	VCC

5) FDD (Floppy Connector)

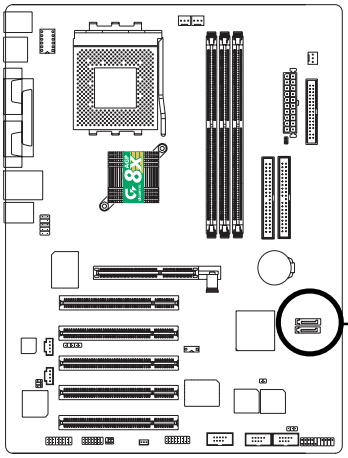
Please connect the floppy drive ribbon cables to FDD. It supports 360K,720K,1.2M,1.44M and 2.88Mbytes floppy disk types. The red stripe of the ribbon cable must be the same side with the Pin1.



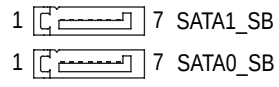


6) [SATA0_SB / SATA1_SB]; (Serial ATA Connector)"*"

You can connect the Serial ATA device to this connector, it provides you high speed transfer rates (150MB/sec).If you wish to use SATA0_SB and SATA1_SB, please Enable " OnChip Serial ATA " item. Then, install the correct driver to have proper operation. For details, please refer to the *"VT8237_SATA_Manual.pdf" at "http:\\www.gigabyte.com.tw"*



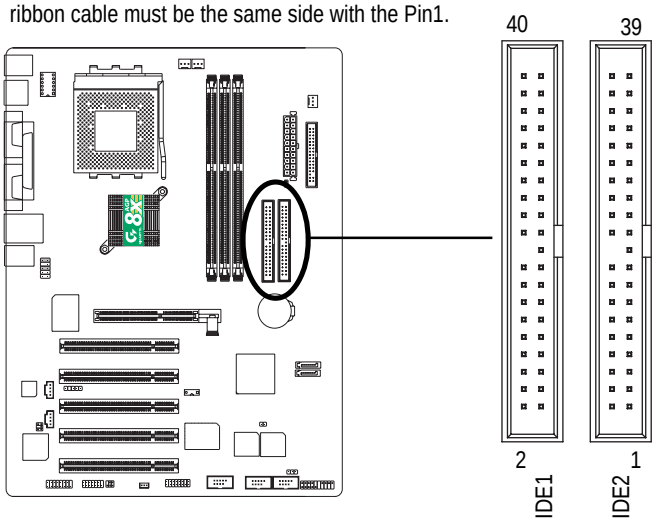
Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND



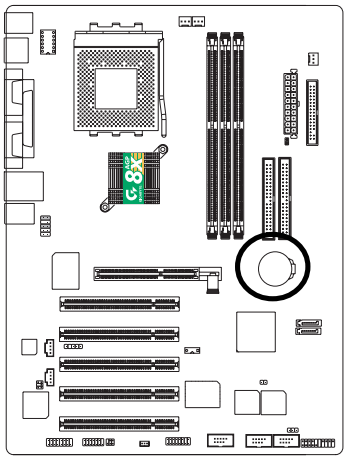
English

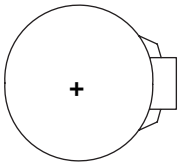
7) IDE1/ IDE2(IDE1/IDE2 Connector)

Please connect first harddisk to IDE1 and connect CDROM to IDE2. The red stripe of the ribbon cable must be the same side with the Pin1.



8) BATTERY (Battery)





CAUTION

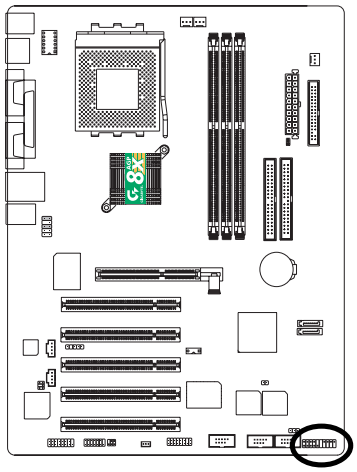
- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacturer's instructions.

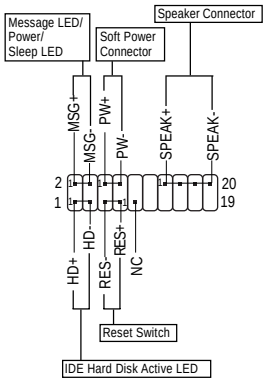
If you want to erase CMOS...

1.Turn OFF the computer and unplug the power cord.
2.Remove the battery, wait for 30 second.
3.Re-install the battery.
4.Plug the power cord and turn ON the computer.

9) F_PANEL (2 x 10 pins Connector)

Please connect the power LED, PC speaker, reset switch and power switch etc. of your chassis front panel to the F_PANEL connector according to the pin assignment above.



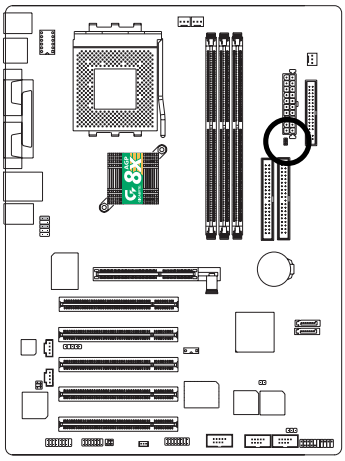


HD (IDE Hard Disk Active LED) (Blue)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPK (Speaker Connector) (Amber)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
RES (Reset Switch) (Green)	Open: Normal Operation Close: Reset Hardware System
PW (Soft Power Connector) (Red)	Open: Normal Operation Close: Power On/Off
MSG(Message LED/ Power/ Sleep LED) (Yellow)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
NC (Purple)	NC

English

10) RAM_LED

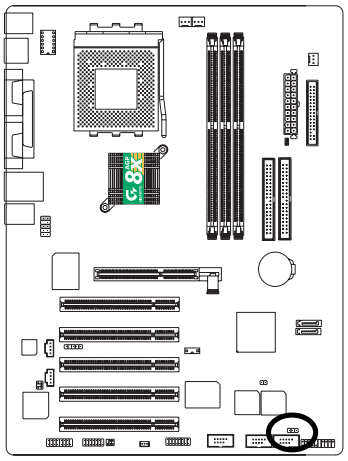
Do not remove memory modules while RAM LED is on. It might cause short or other unexpected damages due to the 2.5V stand by voltage. Remove memory modules only when AC Power cord is disconnected.





11) PWR_LED

PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode. If you use dual color LED, power LED will turn to another color.

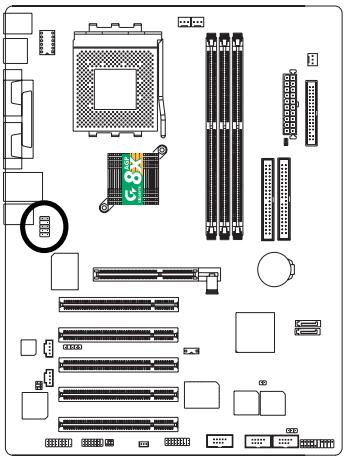




Pin No.	Definition
1	MPD+
2	MPD-
3	MPD-

12) F_AUDIO (F_AUDIO Connector)

If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assigment on the cable is the same as the pin assigment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.

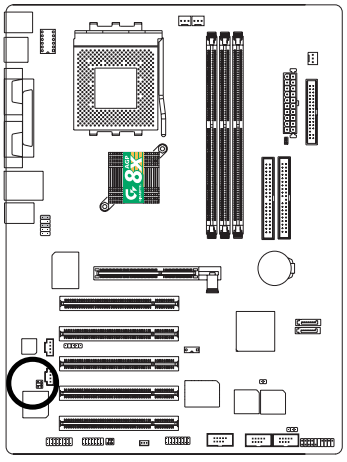




Pin No.	Definition
1	MIC
2	GND
3	REF
4	POWER
5	FrontAudio(R)
6	RearAudio(R)
7	Reserved
8	No Pin
9	FrontAudio (L)
10	RearAudio(L)

13) SUR_CEN

Please contact your nearest dealer for optional SUR_CEN cable.



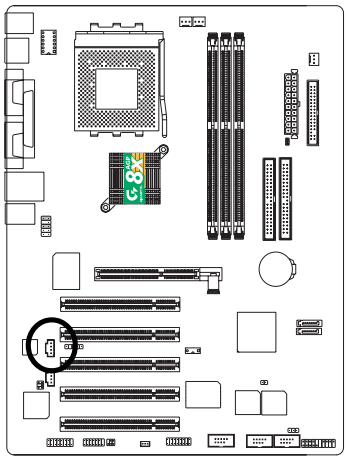


Pin No.	Definition
1	SUR OUTL
2	SUR OUTR
3	GND
4	No Pin
5	CENTER_OUT
6	BASS_OUT

English

14) CD_IN (CD IN)

Connect CD-ROM or DVD-ROM audio out to the connector.

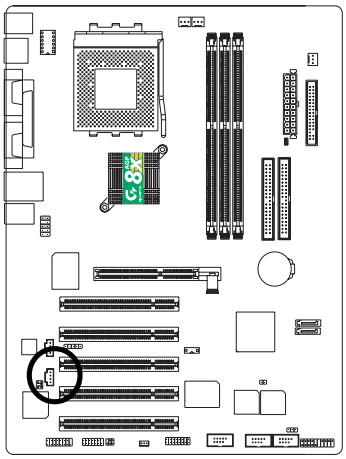




Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD_R

15) AUX_IN (AUX In Connector)

Connect other device(such as PCI TV Tunner audio out)to the connector.

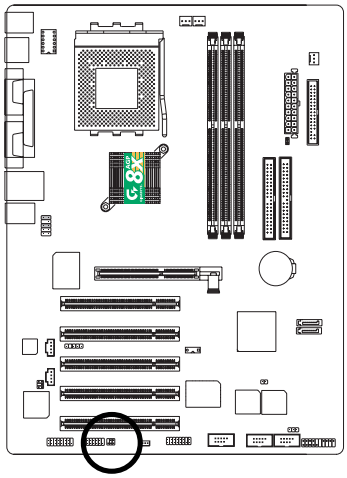




Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX_R

16) SPDIF_IO (SPDIF Out Connector)

The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Please contact your nearest dealer for optional SPDIF cable.

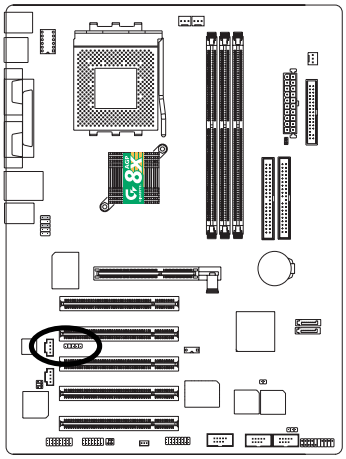




Pin No.	Definition
1	VCC
2	No Pin
3	SPDIF
4	SPDIFI
5	GND
6	GND

17) IR

Be careful with the polarity of the IR connectorwhile you connect the IR. Please contact you nearest dealer for optional IR device.



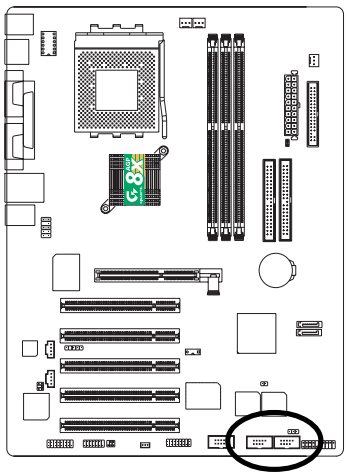


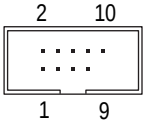
Pin No.	Definition
1	VCC(+5V)
2	No Pin
3	IR Data Inpurt
4	GND
5	IR Data Output

English

18) F_ USB1 / F_USB2(Front USB Connector, Yellow)

Be careful with the polarity of the front USB connector. Check the pin assignment while you connect the front USB cable. Please contact your nearest dealer for optional front USB cable.

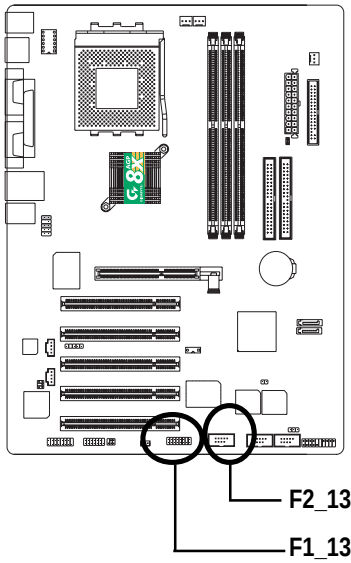




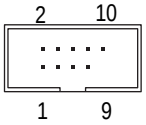
Pin No.	Definition
1	Power
2	Power
3	USB DX-
4	USB Dy-
5	USB DX+
6	USB Dy+
7	GND
8	GND
9	No Pin
10	NC

19) F1_1394/F2_1394 (IEEE 1394 Connector)

Please Note: Serial interface standard set by Institute of Electrical and Electronics Engineers , which has features like high speed, high bandwidth and hot plug.

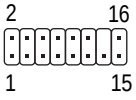


F2_1394



Pin No.	Definition
1	TPA2+
2	TPA2-
3	GND
4	GND
5	TPB2+
6	TPB2-
7	Power
8	Power
9	No Pin
10	GND

F1_1394

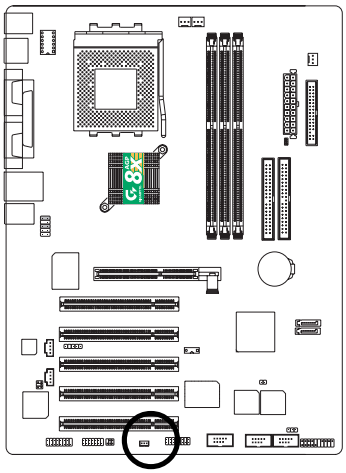


Pin No.	Definition
1	Power
2	Power
3	TPA0+
4	TPA0-
5	GND
6	GND
7	TPB0+
8	TPB0-
9	Power
10	Power
11	TPA1+
12	TPA1-
13	GND
14	No Pin
15	TPB1+
16	TPB1-

English

20) WOL (Wake On Lan)

This connector allows the remove servers to manage the system that installed this mainboard via your network adapter which also supports WOL.

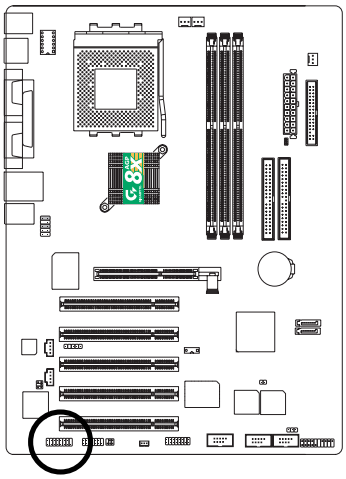


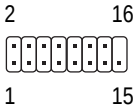


Pin No.	Definition
1	+5V SB
2	GND
3	Signal

21) GAME (Game Connector)

This connector supports joystick, MIDI keyboard and other relate audio devices.

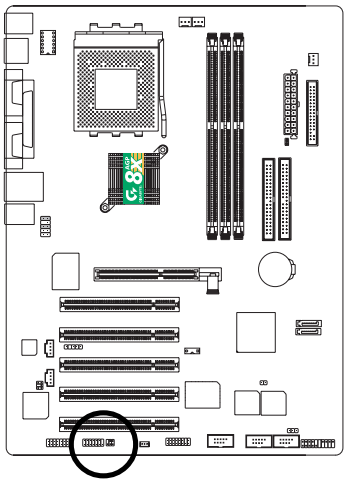


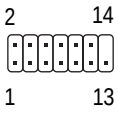


Pin No.	Definition
1	VCC
2	GRX1_R
3	GND
4	GPSA2
5	VCC
6	GPX2_R
7	GPY2_R
8	MSI_R
9	GPSA1
10	GND
11	GPY1_R
12	VCC
13	GPSB1
14	MSO_R
15	GPSB2
16	No Pin

22)Modem

Please contact your nearest dealer for optionalModem card.

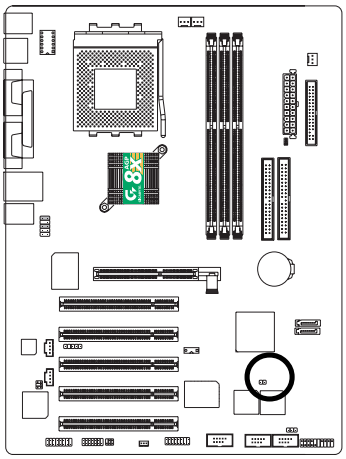




Pin No.	Definition
1	GND
2	VDD33
3	ACOUT
4	VCC
5	ACBCK
6	+12V
7	ADCIN
8	VAUX33
9	ACDOUT
10	NC
11	ACSYNC
12	NC
13	ACRSTB
14	No Pin

23) CI (CASE OPEN)

This 2 pin connector allows your system to enable or disable the “case open” item in BIOS if the system case begin remove.





Pin No.	Definition
1	Signal
2	GND

English

Chapter 3 BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

After power on the computer, pressing **<Del>** immediately during POST (Power On Self Test) it will allow you to enter standard BIOS CMOS SETUP.

If you require more advanced BIOS settings, please go to "Advanced BIOS" setting menu.To enter Advanced BIOS setting menu, press "Ctrl+F1" key on the BIOS screen.

CONTROL KEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
Enter	Select
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item help
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
<F7>	Load the Setup Defaults
<F8>	Dual BIOS/Q-Flash
<F9>	Reserved
<F10>	Save all the CMOS changes, only for Main Menu

English

GETTINGHELP

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

The Main Menu (For example: BIOS Ver. : D4)

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from eight setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

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▶Standard CMOS Features	Load Fail-Safe Defaults
▶Advanced BIOS Features	Load Optimized Defaults
▶Integrated Peripherals	Set Supervisor Password
▶Power Management Setup	Set User Password
▶PnP/PCI Configurations	Save & Exit Setup
▶PC Health Status	Exit Without Saving
▶Frequency/Voltage Control	
ESC:Quit	↑↓→←: Select Item
F8:Dual BIOS /Q-Flash	F10:Save & Exit Setup
Time, Date, Hard Disk Type...	

Figure 1: Main Menu



If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option widden.

- **Standard CMOS Features**

  This setup page includes all the items in standard compatible BIOS.

- **Advanced BIOS Features**

  This setup page includes all the items of Award special enhanced features.

- **Integrated Peripherals**

  This setup page includes all onboard peripherals.

- **Power Management Setup**

  This setup page includes all the items of Green function features.

- **PnP/PCI Configurations**

  This setup page includes all the configurations of PCI & PnP ISA resources.

- **PC Health Status**

  This setup page is the System auto detect Temperature, voltage, fan, speed.

- **Frequency/Voltage Control**

  This setup page is control CPU's clock and frequency ratio.

- **Load Fail-Safe Defaults**

  Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.

- **Load Optimized Defaults**

  Optimized Defaults indicates the value of the system parameters which the system would be in better performance configuration.

- **Set Supervisor password**

  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

- **Set User password**

  Change, set, or disable password. It allows you to limit access to the system.

- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.

- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

English

Standard CMOS Features

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Standard CMOS Features

		Item Help
Date (mm:dd:yy)	Thu, Feb 21 2002	Menu Level ▶
Time (hh:mm:ss)	22:31:24	Change the day, month,year
▶IDE Primary Master	[Press Enter None]	<Week> Sun. to Sat.
▶IDE Primary Slave	[Press Enter None]	<Month>
▶IDE Secondary Master	[Press Enter None]	Jan. to Dec.
▶IDE Secondary Slave	[Press Enter None]	<Day>
Drive A	[1.44M, 3.5"]	1 to 31(or maximun allowed in the month.)
Drive B	[None]	<year>
Floppy 3 Mode Support	[Disabled]	1999 to 2098
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	130048K	
Total Memory	131072K	

↑↓→←: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Figure 2: Standard CMOS Features

☞Date

The date format is <week>, <month>, <day>, <year>.

- ▸▸Week — The week, from Sun to Sat, determined by the BIOS and is display only
- ▸▸Month — The month, Jan. Through Dec.
- ▸▸Day — The day, from 1 to 31 (or the maximum allowed in the month)
- ▸▸Year — The year, from 1999 through 2098

☞Time

The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

☞IDE Primary Master, Slave / Secondary Master, Slave

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and manual type. Manual type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

- ▸▸Capacity: The hard disk size. The unit is Mega Bytes.
- ▸▸Access Mode: The options are: Auto / Large / LBA / Normal.
- ▸▸Cylinder: The cylinder number of hard disk.
- ▸▸Head The read / Write head number of hard disk.
- ▸▸Precomp The cyliner number at which the disk driver changes the write current.
- ▸▸LandingZone The cylinder number that the disk driver heads(read/write) are seated when the disk drive is parked.
- ▸▸SECTORS The sector number of each track define on the hard disk.

If a hard disk has not been installed select NONE and press <Enter>.

☞Drive A / Drive B

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

- ▸▸None No floppy drive installed
- ▸▸360K, 5.25". 5.25 inch PC-type standard drive; 360K byte capacity.
- ▸▸1.2M, 5.25". 5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
- ▸▸720K, 3.5". 3.5 inch double-sided drive; 720K byte capacity
- ▸▸1.44M, 3.5". 3.5 inch double-sided drive; 1.44M byte capacity.
- ▸▸2.88M, 3.5". 3.5 inch double-sided drive; 2.88M byte capacity.

☞Floppy 3 Mode Support (for Japan Area)

▸▸Disabled	Normal Floppy Drive. (Default value)
▸▸Drive A	Enabled 3 mode function of Drive A.
▸▸Drive B	Enabled 3 mode function of Drive B.
▸▸Both	Drive A & B are 3 mode Floppy Drives.

☞Halton

The category determines whether the computer will stop if an error is detected during power up.

▸▸NO Errors	The system boot will not stop for any error that may be detected and you will be prompted.
▸▸All Errors	Whenever the BIOS detects a non-fatal error the system will be stopped.
▸▸All, But Keyboar	The system boot will not stop for a keyboard error; it will stop for all other errors. (Default value)
▸▸All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
▸▸All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

The value of the base memory is typically 512 K for systems with 512 K memory installed on the motherboard, or 640 K for systems with 640 K or more memory installed on the motherboard.

Extended Memory

The BIOS determines how much extended memory is present during the POST.

This is the amount of memory located above 1 MB in the CPU's memory address map.

Advanced BIOS Features

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Advanced BIOS Features

First Boot Device	[Floppy]	Item Help
Second Boot Device	[HDD-0]	Menu Level ▶
Third Boot Device	[CDROM]	
Password Check	[Setup]	

↑↓→←: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Figure 3: Advanced BIOS Features

☞First / Second / Third Boot device

💣 This feature allows you to select the boot device priority.

- ▸▸Floppy Select your boot device priority by Floppy.
- ▸▸LS120 Select your boot device priority by LS120.
- ▸▸HDD-0~3 Select your boot device priority by HDD-0~3.
- ▸▸ SCSI Select your boot device priority by SCSI.
- ▸▸ CDROM Select your boot device priority by CDROM.
- ▸▸LAN Select your boot device priority by LAN.
- ▸▸USB-CDROM Select your boot device priority by USB-CDROM.
- ▸▸USB-ZIP Select your boot device priority by USB-ZIP.
- ▸▸USB-FDD Select your boot device priority by USB-FDD.
- ▸▸ USB-HDD Select your boot device priority by USB-HDD.
- ▸▸ZIP Select your boot device priority by ZIP.
- ▸▸8Disabled Disabled this function.

English

☞ **Password Check**

- ▸▸ Setup — The system will boot but will not access to Setup page if the correct password is not entered at the prompt. (Default value)
- ▸▸ System — The system will not boot and will not access to Setup page if the correct password is not entered at the prompt.

Integrated Peripherals

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Integrated Peripherals

OnChip IDE Channel0	[Enabled]	Item Help
OnChip IDE Channel1	[Enabled]	Menu Level ▶
OnChip Serial ATA'*'	[Enabled]	If a hard disk controller Card is used, set at Disabled. [Enable] Enable onboard IDE PORT [Disable] Disabled onboard IDE PORT.
AC97 Audio	[Enabled]	
USB 1.1 Controller	[Enabled]	
USB 2.0 Controller	[Enabled]	
USB Device Function	[Disabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
Onboard H/W LAN	[Enabled]	
Onboard H/W 1394	[Enabled]	
Onboard LAN Boot ROM	[Disabled]	
Onboard Modem Function	[Disabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
UART Mode Select	[Normal]	
※UR2 Duplex Mode	Half	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
Game Port Address	[201]	
Mdi Port Address	[Disabled]	
Midi Port IRQ	[5]	

↑↓→←: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Figure 4: Integrated Peripherals

' ' If you want to find the detailed information for SATA RAID setup installation, please download "VT8237_SATA_Manual.pdf" at "http:\\www.gigabyte.com.tw"

English

☞OnChip IDE Channel0

When enabled, allows you to use the onboard primary PCI IDE. If a hard disk controller card is used, set at Disabled.

- ▸▸Enabled Enable onboard 1st channel IDE port. (Default value)
- ▸▸Disabled Disable onboard 1st channel IDE port.

☞OnChip IDE Channel1

When enabled, allows you to use the onboard secondary PCI IDE. If a hard disk controller card is used, set at Disabled.

- ▸▸Enabled Enable onboard 2nd channel IDE port. (Default value)
- ▸▸Disabled Disable onboard 2nd channel IDE port.

☞OnChip Serial ATA '*'

- ▸▸Enabled Enable VT8237 Serial ATA support. (Default value)
- ▸▸Disabled Disable VT8237 Serial ATA support.

' If you want find the detailed information for SATA RAID setup installation, please download "VT8237_SATA_Manual.pdf" at "http:\\www.gigabyte.com.tw"

☞AC97 Audio

- ▸▸Enabled Enabled Onchip AC97 controller. (Default value)
- ▸▸Disabled Disabled Onchip AC97 controller.

☞USB 1.1 Controller

Disable this option if you are not using the onboard USB feature.

- ▸▸Enabled Enabled USB1.1 Controller. (Default value)
- ▸▸Disabled Disabled USB1.1 Controller.

☞USB 2.0 Controller

Disable this option if you are not using the onboard USB 2.0 feature.

- ▸▸Enabled Enabled USB 2.0 Controller. (Default value)
- ▸▸Disabled Disabled USB 2.0 Controller.

☞USB Device Function

When a USB Device is installed, please set at Enabled.

- ▸▸Enabled Enabled USB Device Support.
- ▸▸Disabled Disabled USB Device Support. (Default value)

☞USB Keyboard Support

When a USB keyboard is installed, please set at Enabled.

- ▸▸Enabled — Enabled USB Keyboard Support.
- ▸▸Disabled — Disabled USB Keyboard Support. (Default value)

☞USB Mouse Support

- ▸▸Enabled — Enabled USB Mouse Support.
- ▸▸Disabled — Disabled USB Mouse Support. (Default value)

☞Onboard H/W LAN

- ▸▸Enable — Enabled onboard LAN function.(Default value)
- ▸▸Disable — Disable onboard LAN function.

☞Onboard H/W 1394

- ▸▸Enable — Enabled onboard IEEE 1394 function.(Default value)
- ▸▸Disable — Disabled onboard this function.

☞Onboard LAN Boot ROM

This function decide whether to invoke the boot ROM of the onboard LAN chip.

- ▸▸Disabled — Disable this function. (Default Value)
- ▸▸Enabled — Enable this function.

☞Onboard Modem Function

- ▸▸Disabled — Disable integrated modem device. (Default Value)
- ▸▸Enabled — Enable integrated modem device.

☞Onboard Serial Port 1

- ▸▸Auto — BIOS will automatically setup the port 1 address.
- ▸▸3F8/IRQ4 — Enable onboard Serial port 1 and address is 3F8, Using IRQ4. (Default value)
- ▸▸2F8/IRQ3 — Enable onboard Serial port 1 and address is 2F8, Using IRQ3.
- ▸▸3E8/IRQ4 — Enable onboard Serial port 1 and address is 3E8, Using IRQ4.
- ▸▸2E8/IRQ3 — Enable onboard Serial port 1 and address is 2E8, Using IRQ3.
- ▸▸Disabled — Disable onboard Serial port 1.

English

☞ **Onboard Serial Port 2**

- ▸▸ Auto — BIOS will automatically setup the port 2 address.
- ▸▸ 3F8/IRQ4 — Enable onboard Serial port 2 and address is 3F8, Using IRQ4.
- ▸▸ 2F8/IRQ3 — Enable onboard Serial port 2 and address is 2F8, Using IRQ3. (Default Value)
- ▸▸ 3E8/IRQ4 — Enable onboard Serial port 2 and address is 3E8, Using IRQ4.
- ▸▸ 2E8/IRQ3 — Enable onboard Serial port 2 and address is 2E8, Using IRQ3.
- ▸▸ Disabled — Disable onboard Serial port 2.

☞ **UART Mode Select**

This feature allows you to determine which Infra Red(IR) function of Onboard I/O chip)

- ▸▸ ASKIR — Using as IR and set to ASKIR Mode.
- ▸▸ IrDA — Using as IR and set to IrDA Mode.
- ▸▸ Normal — Using as standard serial port. (Default Value)

☞ **UR2 Duplex Mode (When UART Mode Select isn't set [Normal])**

This feature allows you to select the IR modes.

- ▸▸ Half — IR Function Duplex Half. (Default Value)
- ▸▸ Full — IR Function Duplex Full.

☞ **OnBoard Parallel port**

This feature allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.

- ▸▸ 378/IRQ7 — Enable onboard LPT port and address is 378, Using IRQ7. (Default Value)
- ▸▸ 278/IRQ5 — Enable onboard LPT port and address is 278, Using IRQ5.
- ▸▸ 3BC/IRQ7 — Enable onboard LPT port and address is 3BC, Using IRQ7.
- ▸▸ Disabled — Disable onboard parallel port.

☞ **Parallel Port Mode**

This feature allows you to connect with an advanced print via the port mode it supports.

- ▸▸ SPP — Using Parallel port as Standard Parallel Port using IRQ7. (Default Value)
- ▸▸ EPP — Using Parallel port as Enhanced Parallel Port IRQ5.
- ▸▸ ECP — Using Parallel port as Extended Capabilities Port using IRQ7.
- ▸▸ ECP+EPP — Using Parallel port as ECP & EPP mode.

☞ **Game Port Address**

▸▸Disabled	Disabled this function.
▸▸201	Set Game Port Address to 201. (Default Value)
▸▸209	Set Game Port Address to 209.

☞ **Midi Port Address**

▸▸Disabled	Disabled this function. (Default Value)
▸▸300	Set Midi Port Address to 300.
▸▸330	Set Midi Port Address to 330.

☞ **Midi Port IRQ**

▸▸5	Set 5 for Midi Port IRQ. (Default value)
▸▸10	Set 10 for Midi Port IRQ.

English

Power Management Setup

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Power Management Setup

ACPI Suspend Type	[S1(POS)]	Item Help
※USB Device Wake-Up From S3	Disabled	MenuLevel▶
Power LED in S1 state	[Blinking]	[S1]
Soft-Off by PWRBTN	[Instant-off]	Set Suspend Type to Power On Suspend under ACPI OS
AC Back Function	[Soft-Off]	[S3]
Keyboard Power On	[Disabled]	for ACPI OS
Mouse Power On	[Disabled]	Set Suspend Type to Suspend to RAM under ACPI OS
PME Event Wake Up	[Enabled]	
ModemRingOn/WakeOnLAN	[Enabled]	
Resume by Alarm	[Disabled]	
※ Date(of Month) Alarm	Everyday	
※Time(hh:mm:ss) Alarm	0 : 0 : 0	

↑↓→←: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Figure 5: Power Management Setup

☞ACPI Suspend Type

- ▸▸S1/POS Set suspend type to Power On Suspend under ACPI OS (Power On Suspend). (Default value)
- ▸▸S3/STR Set suspend type to Suspend To RAM under ACPI OS (Suspend To RAM).

☞USB Device Wakeup From S3(When ACPI Suspend Type is set [S3/STR])

USB device wakeup From S3 can be set when ACPI standby state set to S3/STR.

- ▸▸Enabled USB Device can wakeup system from S3.
- ▸▸Disabled USB Device can't wakeup system from S3. (Default value)

☞Power LED in S1 state

▸▸Blinking	In standby mode(S1), power LED will blink. (Default Value)
▸▸Dual/Off	In standby mode(S1): a. If use single color LED, power LED will turn off. b. If use dual color LED, power LED will turn to another color.

☞Soft-off by PWRBTN

▸▸Instant-off	Press power button then Power off instantly. (Default value)
▸▸Delay 4 Sec.	Press power button 4 sec to Power off. Enter suspend if button is pressed less than 4 sec.

☞AC Back Function

▸▸Memory	System power on depends on the status before AC lost.
▸▸Soft-Off	Always in Off state when AC back. (Default value)
▸▸Full-On	Always power on the system when AC back.

☞Keyboard Power On

This feature allows you to set the method for powering-on the system.

The option "Password" allows you to set up to 8 alphanumeric characters to power-on the system.

The option "Keyboard 98" allows you to use the standard keyboard 98 to power on the system.

▸▸Password	Enter from 1 to 8 characters to set the Keyboard Power On Password.
▸▸Disabled	Disabled this function. (Default value)
▸▸Keyboard 98	If your keyboard have "POWER Key" button, you can press the key to power on your system.

☞Mouse Power On

▸▸Disabled	Can't Power on system by Mouse Event. (Default value)
▸▸Enabled	Can Power on system by Mouse Event.

English

☞PME Event Wake up

- When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state.
- This feature requires an ATX power supply that provides at least 1A on the +5VSB lead.

▸▸Disabled	Disabled PME Event Wake up function.
▸▸Enabled	Enabled PME Event Wake up function. (Default Value)

☞Modem Ring On/ Wake On LAN (When AC Back Function is set to [Soft-Off])

- You can enable wake on LAN feature by the "Modem Ring On/Wake On LAN" or "PME Event Wake up" when the M/B has "WOL" onboard connector. Only enabled the feature by "PME Event Wake up".
- An incoming call via modem awakes the system from its soft-off mode.
- When set at Enabled, an input signal comes from the other client.

  Server on the LAN awaks the system from a soft off state if connected over LAN.

▸▸Disabled	Disabled Modem Ring On / Wake On LAN function.
▸▸Enabled	Enabled Modem Ring On / Wake On LAN function. (Default Value)

☞Resume by Alarm

You can set "Resume by Alarm" item to enabled and key in Data/time to power on system.

▸▸Disabled	Disable this function. (Default Value)
▸▸Enabled	Enable alarm function to POWER ON system.

If RTC Alarm Lead To Power On is Enabled.

Date (of Month) Alarm : Everyday, 1~31

Time (hh: mm: ss) Alarm :(0~23) : (0~59) : (0~59)

PnP/PCI Configurations

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PnP/PCI Configurations

PCI1/PCI5 IRQ Assignment	[Auto]	Item Help
PCI2 IRQ Assignment	[Auto]	Menu Level ▶
PCI3 IRQ Assignment	[Auto]	Device(s) using this INT: USB 1.1 Host Cntrlr -Bus 0 Dev 16 Func 3 USB 1.1 Host Cntrlr -Bus 0 Dev 16 Func 2
PCI4 IRQ Assignment	[Auto]	

↑↓→←: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Figure 6: PnP/PCI Configurations

☞PCI1/PCI5 IRQ Assignment

▸▸Auto	Auto assign IRQ to PCI 1/ PCI 5. (Default value)
▸▸3,4,5,7,9.,10,11,12,14,15	Set 3,4,5,7,9,10,11,12,14,15 to PCI1/ PCI5.

☞PCI2 IRQ Assignment

▸▸Auto	Auto assign IRQ to PCI 2. (Default value)
▸▸3,4,5,7,9.,10,11,12,14,15	Set 3,4,5,7,9,10,11,12,14,15 to PCI2.

☞PCI3 IRQ Assignment

▸▸Auto	Auto assign IRQ to PCI 3. (Default value)
▸▸3,4,5,7,9.,10,11,12,14,15	Set 3,4,5,7,9,10,11,12,14,15 to PCI3.

☞PCI4 IRQ Assignment

▸▸Auto	Auto assign IRQ to PCI 4. (Default value)
▸▸3,4,5,7,9.,10,11,12,14,15	Set 3,4,5,7,9,10,11,12,14,15 to PCI4.

English

PC Health Status

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PC Health Status

Reset Case Open Status	[Disabled]	Item Help
Case Opened	No	Menu Level ▶
VCORE	1.772V	[Disabled]
DDRVtt	1.248V	Do'nt reset case
+3.3V	3.280V	open status
+ 5V	4.919 V	[Enabled]
+12V	11.968V	Clear Case open
5VSB	5.053V	status at next boot.
Current System Temperature	31°C	
Current CPU Temperature	45°C	
Current CPU FAN Speed	3183 RPM	
Current SYSTEM FAN speed	0 RPM	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	

↑↓→←: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Figure7: PC Health Status

☞**Reset Case Open Status**

☞**Case Opened**

If the case is closed, "Case Opened" will show "No".

If the case have been opened, "Case Opened" will show "Yes".

If you want to reset "Case Opened" value, set "Reset Case Open Status" to "Enabled" and save CMOS, your computer will restart.

☞**Current Voltage (V) VCORE /DDRVtt/ +3.3V/ +5V / +12V / 5VSB**

Detect system's voltage status automatically.

☞ **Current CPU / System Temperature (°C)**

Detect CPU/System Temp. automatically.

☞ **Current CPU FAN / SYSTEM FAN Speed (RPM)**

Detect Fan speed status automatically.

☞ **Fan Fail Warning (CPU / SYSTEM)**

- ▸▸Disabled — Don't monitor current fan speed. (Default value)
- ▸▸Enabled — Alarm when stops.

English

Frequency/Voltage Control

CMOS Setup Utility-Copyright (C) 1984-2003 Award Software

Frequency/Voltage Control

Spread spectrum Modulated	[Enabled]	Item Help
CPU Host Clock Control	[Disable]	Menu Level ▶
※CPU Host Frequency(MHz)	100	Set CPU Ratio if CPU Ratio is unlocked.
※PCI/AGP Frequency(MHz)	33/66	
DRAM Clock(MHz)	Auto	
CPU Voltage Control	[Auto]	
AGP OverVoltage Control	[Auto]	
DIMM OverVoltage Control	[Auto]	

↑↓→←: Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Figure 8: Frequency/Voltage Control

※Those items will be available when "CPU Host Clock Control" is set to Enabled.

☞**Spread spectrum Modulated**

- ▸▸Disabled Disable clock spread spectrum.
- ▸▸Enabled Enable clock spread spectrum.(Default value)

☞**CPU Host Clock Control**

Note: If system hangs up before enter CMOS setup utility, wait for 20 sec for times out reboot. When time out occur, system will reset and run at CPU default Host clock at next boot.

- ▸▸Disable Disable CPU Host Clock Control.(Default value)
- ▸▸Enable Enable CPU Host Clock Control.

☞**CPU Host Frequency (MHz) (By switch SW1)**

- ▸▸100 Set CPU Host Clock to 100MHz~132MHz.
- ▸▸133 Set CPU Host Clock to 133MHz~165MHz.
- ▸▸166 Set CPU Host Clock to 166MHz~200MHz.

☞PCI/AGP Frequency(MHz)

⏩ The values depend on CPU Host Frequency(Mhz) .

☞DRAM Clock (MHz)

⏩ The values depend on DRAM Clock Frequency(Mhz) .

☞CPU OverVoltage Control

Increase CPU voltage may get stable for Over_Clock. But it may damage to CPU when enable this feature.

⏩ Auto Supply voltage as CPU reguired. (Default value)

⏩ +5% / +7.5% / +10% Increase voltage range as user selected.

☞AGP OverVoltage Control

Increase AGP voltage may get stable for Over_Clock. But it may damage to AGP Card when enable this feature.

⏩ Auto Supply voltage as AGP Card reguired. (Default value)

⏩ +0.1V~+.03V Set AGP voltage from 1.6V~1.8V.

☞DIMM OverVoltage Control

Increase DRAM voltage may get stable for Over_Clock. But it may damage to DRAM module when enable this feature.

⏩ Auto Supply voltage as DRAM module reguired. (Default value)

⏩ +0.1V~+.03V Set DIMM voltage from 2.6V~2.8V.

English

Load Fail-Safe Defaults

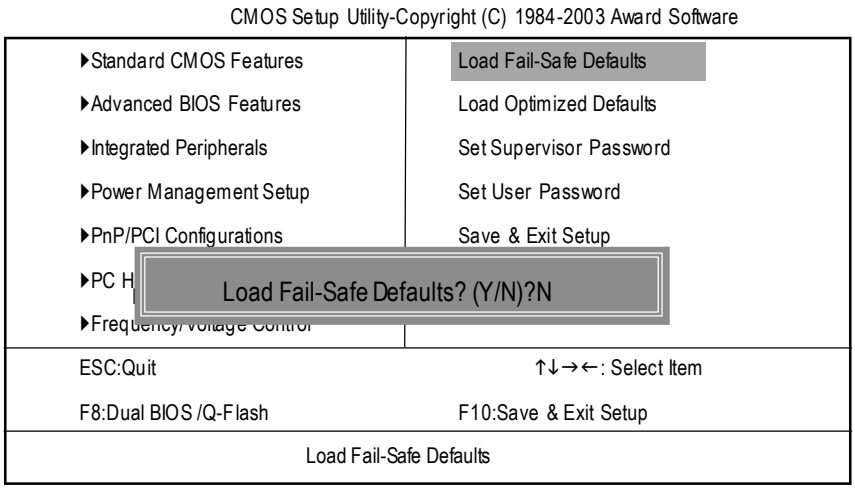


Figure 9: Load Fail-Safe Defaults

☞Load Fail-Safe Defaults

Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

Load Optimized Defaults

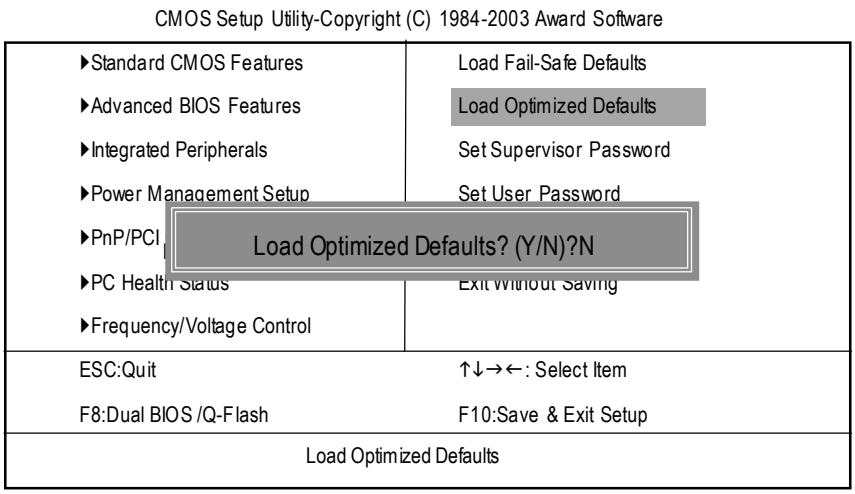


Figure 10: Load Optimized Defaults

☞Load Optimized Defaults

Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

English

Set Supervisor/User Password

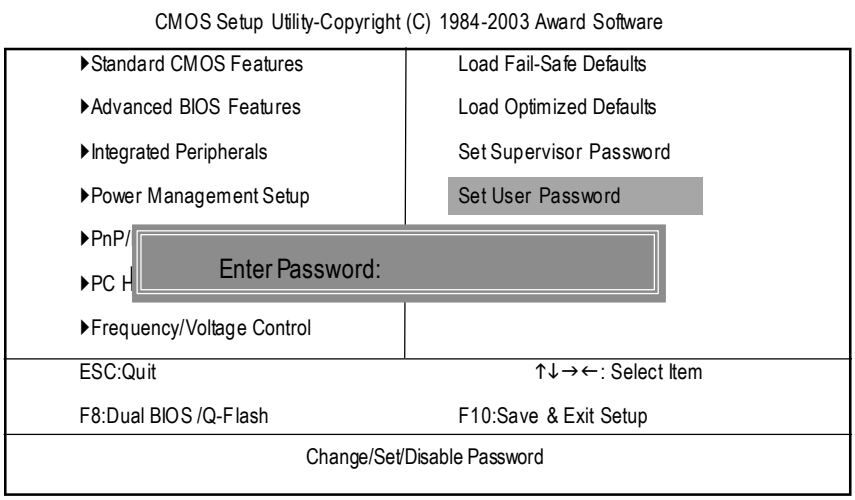


Figure 11: Password Setting

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Type the password, up to eight characters, and press <Enter>. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

The BIOS Setup program allows you to specify two separate passwords: a SUPERVISOR PASSWORD and a USER PASSWORD. When disabled, anyone may access all BIOS Setup program function. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full configuration fields, the User password is required to access only basic items.

If you select "System" at "Security Option" in Advance BIOS Features Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu.

If you select "Setup" at "Security Option" in Advance BIOS Features Menu, you will be prompted only when you try to enter Setup.

Save & Exit Setup

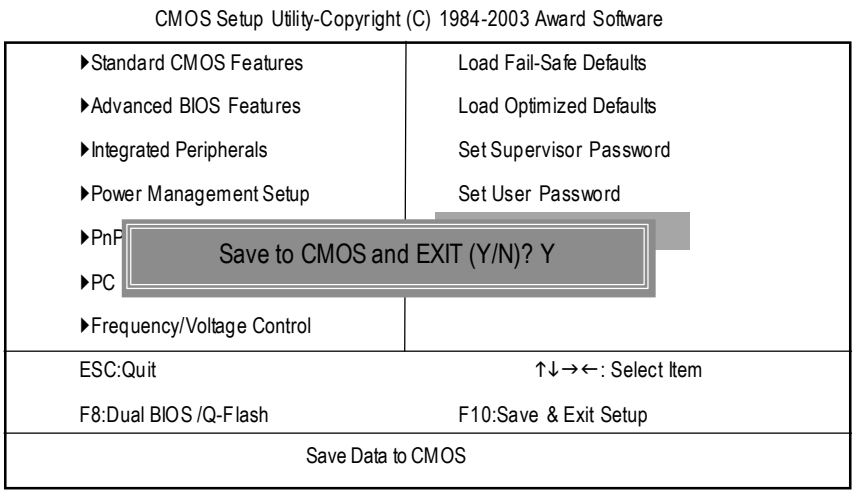


Figure 12: Save & Exit Setup

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.
Type "N" will return to Setup Utility.

English

Exit Without Saving

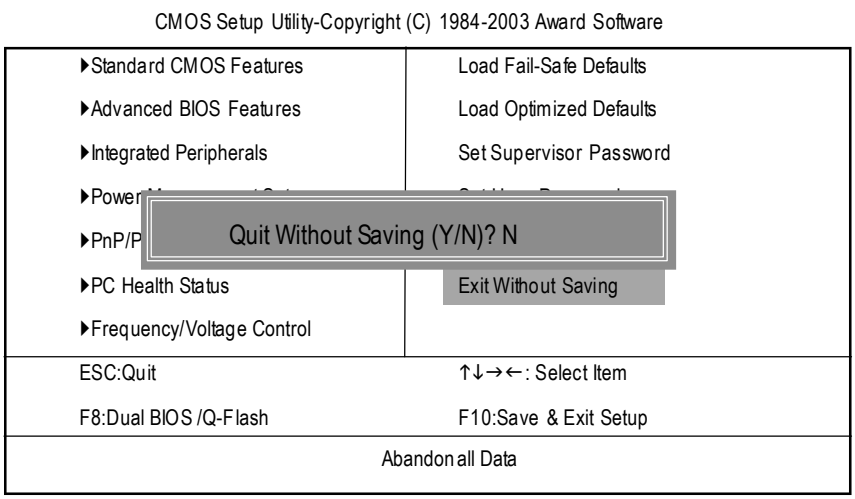


Figure 13: Exit Without Saving

Type "Y" will quit the Setup Utility without saving to RTC CMOS.

Type "N" will return to Setup Utility.

Chapter 4 Technical Reference

BIOS Flash Procedure

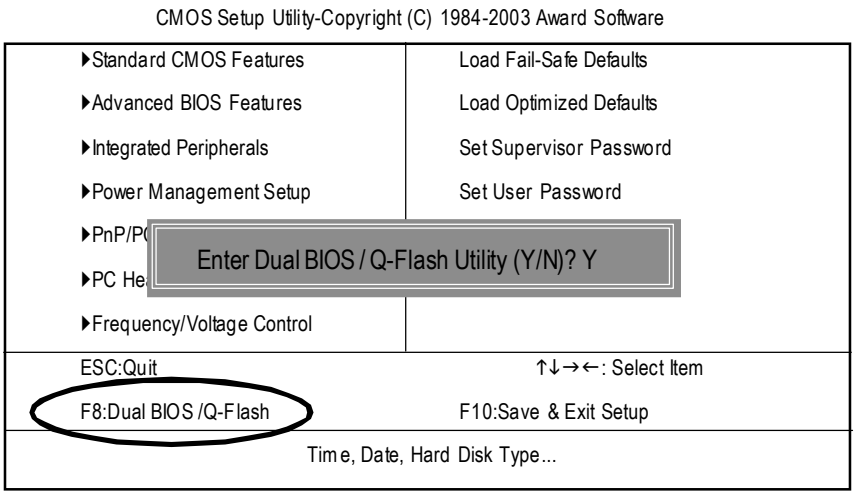
Method 1:
Dual BIOS / Q-Flash Introduction

A. What is Dual BIOS Technology?

Dual BIOS means that there are two system BIOS (ROM) on the motherboard, one is the Main BIOS and the other is Backup BIOS. Under the normal circumstances, the system works on the Main BIOS. If the Main BIOS is corrupted or damaged, the Backup BIOS can take over while the system is powered on. This means that your PC will still be able to run stably as if nothing has happened in your BIOS.

B. How to use Dual BIOS and Q-Flash Utility?

a. After power on the computer, pressing <Del> immediately during POST (Power On Self Test) it will allow you to enter Award BIOS CMOS SETUP, then press <F8> to enter Flash utility.



English

b. Dual BIOS / Q-Flash Utility

Dual BIOS Utility V1.30			
Boot From.....	Main Bios		
Main ROM Type/Size.....	SST49LF003A	512K	
Backup ROM Type/Size.....	SST49LF003A	512K	
Wide Range Protection	Disable		
BootFrom	Main Bios		
Auto Recovery	Enable		
Halt On Error	Disable		
Keep DMI Data	Enable		
Copy Main ROM Data to Backup			
Load Default Settings			
Save Settings to CMOS			
Q-Flash Utility			
Update Main BIOS from Floppy			
Update Backup BIOS from Floppy			
Save Main BIOS to Floppy			
Save Backup BIOS to Floppy			
PgDn/PgUp: Modify	↑↓: Move	ESC: Reset	F10: Power Off

3.) Dual BIOS Item explanation:

- **Wide Range Protection: Disable(Default), Enable**

  Status 1:

  If any failure (ex. Update ESCD failure, checksum error or reset...) occurs in the Main BIOS, just before the Operating System is loaded and after the power is on, and that the Wide Range Protection is set to "Enable", the PC will boot from Backup BIOS automatically.

  Status 2:

  If the ROM BIOS on peripherals cards(ex. SCSI Cards, LAN Cards,..) emits signals torequest restart of the system after the user make any alteration on it, the boot up BIOS will not be changed to the Backup BIOS.

- **Boot From : Main BIOS(Default), Backup BIOS**

  Status 1:

  The user can set to boot from main BIOS or Backup BIOS.

  Status 2:

  If one of the main BIOS or the Backup BIOS fails, this item *"Boot From : Main BIOS(Default)"* will become gray and will not be changed by user.

- **Auto Recovery : Enable(Default), Disable**

  When one of the Main BIOS or Backup BIOS occurs checksum failure, the working BIOS will automatically recover the BIOS of checksum failure.

  (In the Power Management Setup of the BIOS Setting, if ACPI Suspend Type is set to Suspend to RAM, the Auto Recovery will be set to Enable automatically.)

  (If you want to enter the BIOS setting, please press **"Del"** key when the boot screen appears.)

- **Halt On Error : Disable(Default), Enable**

  If the BIOS occurs a checksum error or the Main BIOS occurs a WIDE RANGE PROTECTION error and Halt On Error set to Enable, the PC will show messages on the boot screen, and the system will pause and wait for the user's instruction.

  If Auto Recovery :**Disable**, it will show ***<or the other key to continue.>***

  If Auto Recovery :**Enable**, it will show ***<or the other key to Auto Recover.>***

- **Keep DMI Data : Enable(Default), Disable**

  Enable: The DMI data won't be replaced by flashing new BIOS.(recommend)

  Disable: The DMI data will be replaced by flashing new BIOS.

- **Copy Main ROM Data to Backup**

  (If you boot from Backup ROM, this item will change to "Copy Backup ROM Data to Main)

  Auto recovery message:

  BIOS Recovery: Main to Backup

  The means that the Main BIOS works normally and could automatically recover the Backup BIOS.

  BIOS Recovery: Backup to Main

  The means that the Backup BIOS works normally and could automatically recover the Main BIOS. (This auto recovery utility is set by system automatically and can't be changed by user.)

- **Load Default Settings**

  Load dual BIOS default value.

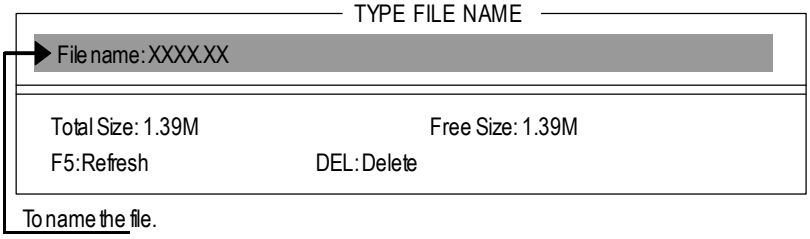
- **Save Settings to CMOS**

  Save revised setting.

English

Save Main BIOS to Floppy / Save Backup BIOS to Floppy

In the A:drive, insert the floppy disk, then Press Enter to Run.



Congratulate you have accomplished the saving.

CONTROL KEYS

<PgDn/PgUp>	Make changes
<↑>	Move to previous item
<↓>	Move to next item
<Enter>	Run
<Esc>	Reset
<F10>	Power Off

DualBIOS™ Technology FAQ

GIGABYTE Technology is pleased to introduce DualBIOS technology, a hot spare for your system BIOS. This newest "Value-added" feature, in a long series of innovations from GIGABYTE, is available on GA-6OXET Series motherboard. Future GIGABYTE motherboards will also incorporate this innovation.

What's DualBIOS™?

On GIGABYTE motherboards w6ith DualBIOS there are physically two BIOS chips. For simplicity we'll call one your "Main BIOS" and the other we'll call your "Backup" BIOS (your "hot spare"). If your Main BIOS fails, the Backup BIOS almost automatically takes over on your next system boot. Almost automatically and with virtually zero down time! Whether the problem is a failure in flashing your BIOS or a virus or a catastrophic failure of the Main BIOS chip, the result is the same - the Backup BIOS backs you up, almost automatically.

I. Q: What is DualBIOS™ technology?

Answer:

DualBIOS technology is a patented technology from Giga-Byte Technology. The concept of this technology is based on the redundancy and fault tolerance theory. DualBIOS™ technology simply means there are two system BIOSes (ROM) integrated onto the motherboard. One is a main BIOS, and the other is a backup BIOS. The mainboard will operate normally with the main BIOS, however, if the main BIOS is corrupt or damaged for various reasons, the backup BIOS will be automatically used when the system powered-On. Your PC will operate as before the main BIOS was damaged, and is completely transparent to the user.

II. Q: Why does anyone need a motherboard with DualBIOS™ technology?

Answer:

In today's systems there are more and more BIOS failures. The most common reasons are virus attacks, BIOS upgrade failures, and/or deterioration of the BIOS (ROM) chip itself.

1. New computer viruses are being found that attack and destroy the system BIOS. They may corrupt your BIOS code, causing your PC to be unstable or even not boot normally.
2. BIOS data will be corrupted if a power loss/surge occurs, or if a user resets the system, or if the power button is pressed during the process of performing a system BIOS upgrade.
3. If a user mistakenly updates their mainboard with the incorrect BIOS file, then the system may not be able to boot correctly. This may cause the PC system hang in operation or during boot.
4. A flash ROM's life cycle is limited according to electronic characteristics. The modern PC utilizes the Plug and Play BIOS, and is updated regularly. If a user changes peripherals often, there is a slight chance of damage to the flash ROM.
   With Giga-Byte Technology's patented DualBIOS™ technology you can reduce the possibility of hangs during system boot up, and/or loss BIOS data due to above reasons. This new technology will eliminate valuable system down time and costly repair bills cause by BIOS failures.

III. Q: How does DualBIOS™ technology work?

Answer:

1. DualBIOS™ technology provides a wide range of protection during the boot up procedure. It protects your BIOS during system POST, ESCD update, and even all the way to PNP detection/assignment.
2. DualBIOS™ provides automatic recovery for the BIOS. When the first BIOS used during boot up does not complete or if a BIOS checksum error occurs, boot-up is still possible. In the DualBIOS™ utility, the "Auto Recovery" option will guarantee that if either the main BIOS or backup BIOS is corrupted, the DualBIOS™ technology will use the good BIOS and correct the wrong BIOS automatically.
3. DualBIOS™ provides manual recovery for the BIOS. DualBIOS™ technology contains a built-in flash utility, which can flash your system BIOS from backup to main and/or visa versa. There is no need for an OS-dependent flash utility program.
4. DualBIOS™ contains a one-way flash utility. The built-in one-way flash utility will ensure that the corrupt BIOS is not mistaken as the good BIOS during recovery and that the correct BIOS (main vs. backup) will be flashed. This will prevent the good BIOS from being flashed.

IV. Q: Who Needs DualBIOS™ technology?

Answer:

1. Every user should have DualBIOS™ technology due to the advancement of computer viruses.

   Everyday, there are new BIOS-type viruses discovered that will destroy your system BIOS. Most commercial products on the market do not have solutions to guard against this type of virus intrusion. The DualBIOS™ technology will provide a state-of-the-art solution to protect your PC:

   Case I.) Vicious computer viruses may wipe out your entire system BIOS. With a conventional single system BIOS PC, the PC will not be functional until it is sent for repairs.

   Case II.) If the "Auto Recovery" option is enabled in the DualBIOS™ utility, and if a virus corrupts your system BIOS, the backup BIOS will automatically reboot the system and correct the main BIOS.

   Case III.) A user may override booting from the main system BIOS. The DualBIOS™

utility may be entered to manually change the boot sequence to boot from the backup BIOS.

2. During or after a BIOS upgrade, if DualBIOS™ detects that the main BIOS is corrupt, the backup BIOS will take over the boot-up process automatically. Moreover, it will verify the main and backup BIOS checksums when booting-up. DualBIOS™ technology examines the checksum of the main and backup BIOS while the system is powered on to guarantee your BIOS operates properly.

3. Power Users will have the advantage of having two BIOS versions on their mainboard. The benefit is being able to select either version BIOS to suit the performance system needs.

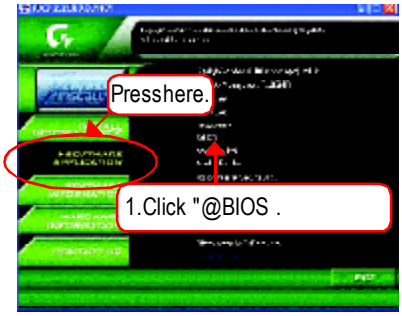
4. Flexibility for high-end desktop PCs and workstation/servers. In the DualBIOS™ utility, the option can be set, "Halt On When BIOS Defects," to be enabled to halt your system with awarning message that the main BIOS has been corrupted. Most workstation/servers require constant operation to guarantee services have not been interrupted. In this situation, the "Halt On When BIOS Defects" message may be disabled to avoid system pauses during normal booting. Another advantage you gain from Giga-Byte's DualBIOS™ technology is the ability to upgrade from dual 2 Mbit BIOS to dual 4 Mbit BIOS in the future if extra BIOS storage is need.

English

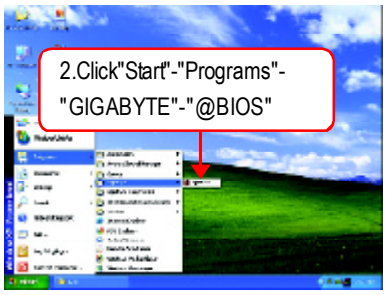
Method 2:

If you don't have DOS boot disk, we recommend that you used Gigabyte @BIOS™ program to flash BIOS.

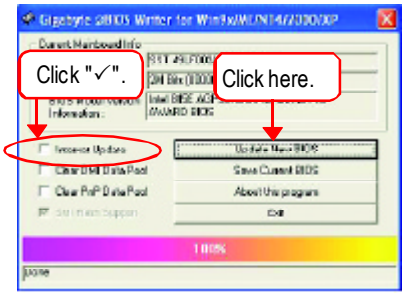
Follow the setup that showing on the scween to install the Utility.



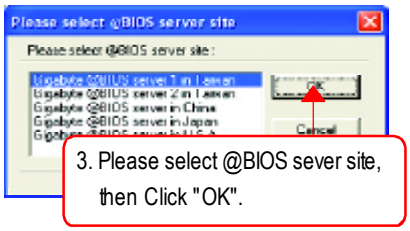
(1)



(2)



(3)



(4)

Methods and steps:

I. Update BIOS through Internet

a. Click "Internet Update" icon
b. Click "Update New BIOS" icon
c. Select @BIOS™ sever
d. Select the exact model name on your motherboard
e. System will automatically download and update the BIOS.

II. Update BIOS NOT through Internet:

a. Do not click "Internet Update" icon
b. Click "Update New BIOS"
c. Please select "All Files" in dialog box while opening the old file.
d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: 7VT600F.F1).
e. Complete update process following the instruction.

III. Save BIOS

In the very beginning, there is "Save Current BIOS" icon shown in dialog box. It means to save the current BIOS version.

IV. Check out supported motherboard and Flash ROM:

In the very beginning, there is "About this program" icon shown in dialog box. It can help you check out which kind of motherboard and which brand of Flash ROM are supported.

Note:

a. In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Selecting wrong model name will cause the system unbooted.
b. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.
c. In method I, if the BIOS file you need cannot be found in @BIOS™ server, please go onto Gigabyte's web site for downloading and updating it according to method II.
d. Please note that any interruption during updating will cause system unbooted

English

@ BIOS Introduction

Gigabyte announces @BIOS
Windows BIOS live update utility



Have you ever updated BIOS by yourself? Or like many other people, you just know what BIOS is, but always hesitate to update it? Because you think updating newest BIOS is unnecessary and actually you don't know how to update it.

Maybe not like others, you are very experienced in BIOS updating and spend quite a lot of time to do it. But of course you don't like to do it too much. First, download different BIOS from website and then switch the operating system to DOS mode. Secondly, use different flash utility to update BIOS. The above process is not a interesting job. Besides, always be carefully to store the BIOS source code correctly in your disks as if you update the wrong BIOS, it will be a nightmare.

Certainly, you wonder why motherboard vendors could not just do something right to save your time and effort and save you from the lousy BIOS updating work? Here it comes! Now Gigabyte announces @BIOS—the first Windows BIOS live update utility. This is a smart BIOS update software. It could help you to download the BIOS from internetand update it. Not like the other BIOS update software, it's a Windows utility. With the help of "@BIOS', BIOS updating is no more than a click.

Besides, no matter which mainboard you are using, if it's a Gigabyte's product*, @BIOS help you to maintain the BIOS. This utility could detect your correct mainboard model and help you to choose the BIOS accordingly. It then downloads the BIOS from the nearest Gigabyte ftp site automatically. There are several different choices; you could use "Internet Update" to download and update your BIOS directly. Or you may want to keep a backup for your current BIOS, just choose "Save Current BIOS" to save it first. You make a wise choice to use Gigabyte, and @BIOS update your BIOS smartly. You are now worry free from updating wrong BIOS, and capable to maintain and manage your BIOS easily. Again, Gigabyte's innovative product erects a milestone in mainboard industries.

For such a wonderful software, how much it costs? Impossible! It's free! Now, if you buy a Gigabyte's motherboard, you could find this amazing software in the attached driver CD. But please remember, connected to internet at first, then you could have a internet BIOS update from your Gigabyte @BIOS.

Easy Tune™ 4 Introduction

Gigabyte announces *EasyTune™ 4* Windows based Overclocking utility

EasyTune 4 carries on the heritage so as to pave the way for future generations.

Overclock" might be one of the most common issues in computer field. But have many users ever tried it? The answer is probably "no". Because "Overclock" is thought to be very difficult and includes a lot of technical know-how, sometimes "Overclock" is even considered as special skills found only in some enthusiasts. But as to the experts in "Overclock", what's the truth? They may spend quite a lot of time and money to study, try and use many different hardware or BIOS tools to do "Overclock". And even with these technologies, they still learn that it's quite a risk because the safety and stability of an "Overclock" system is unknown. Now everything is different because of a Windows based overclocking utility "EasyTune 4" --announced by Gigabyte. This windows based utility has totally changed the gaming rule of "Overclock". This is the first windows based overclocking utility is suitable for both normal and power users. Users can choose either "Easy Mode" or "Advanced Mode" for overclocking at their convenience. For users who choose "Easy Mode", they just need to click "Auto Optimize" to have autoed and immediate CPU overclocking. This software will then overdrive CPU speed automatically with the result being shown in the control panel. If users prefer "Overclock" by them, there is also another choice. Click "Advanced Mode" to enjoy "sport drive" class Overclocking user interface. "Advanced Mode", allows users to change the system bus / AGP / Memory working frequency in small increments to get ultimate system performance. It operates in coordination with Gigabyte motherboards. Besides, it is different from other traditional overclocking methods, EasyTune 4 doesn't require users to change neither BIOS nor hardware switch/ jumper setting; on the other hand, they can do "Overclock" at easy step . Therefore, this is a safer way for "Overclock" as nothing is changed on software or hardware. If user runs EasyTune 4 over system's limitation, the biggest lost is only to restart the computer again and the side effect is then well controlled. Moreover, if one well-performed system speed has been tested in EasyTune 4, user can "Save" this setting and "Load" it in next time. Obviously, Gigabyte EasyTune 4 has already turned the "Overclock" technology toward to a newer generation. This wonderful software is now free bundled in Gigabyte motherboard attached in driver CD. Users may make a test drive of "EasyTune 4" to find out more amazing features by themselves.



*Some Gigabyte products are not fully supported by EasyTune 4. Please find the products supported list in the web site.

*Any "Overclocking action" is at user's risk, Gigabyte Technology will not be responsible for any damage or instability to your processor, motherboard, or any other components.

English

2-/4-/6-Channel Audio Function Introduction

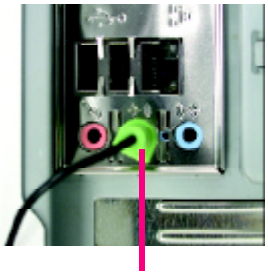
The installation of windows 98SE/2K/ME/XP is very simple. Please follow next step to install the function!

Stereo Speakers Connection and Settings:

We recommend that you use the speaker with amplifier to acqiire the best sound effect if the stereo output is applied.

STEP 1:

Connect the stereo speakers or earphone to "Line Out".



Line Out

STEP 2 :

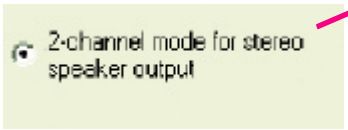
After installation of the audio driver, you'll find an  icon on the taskbar's status area. Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.





STEP 3:

Select "Speaker Configuration", and choose the "2 channel for stereo speakers out put".



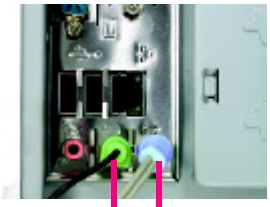


4 Channel Analog Audio Output Mode

STEP 1 :

Connect the front channels to "Line Out",

the rear channels to "Line In".



STEP 2 :

After installation of the audio driver, you'll find an  icon on the taskbar's status area. Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.

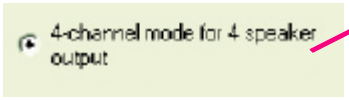


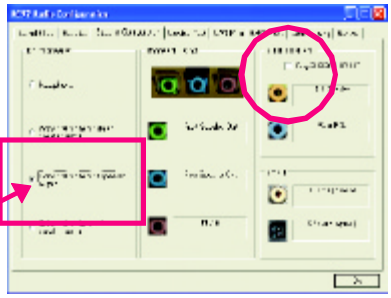


STEP 3 :

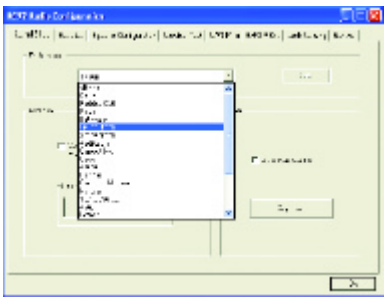
Select "Speaker Configuration", and choose the "4 channel for 4 speakers out put".

Disable "Only SURROUND-KIT", and press "OK".





When the "Environment settings" is "None", the sound would be performed as stereo mode (2 channels output). Please select the other settings for 4 channels output.



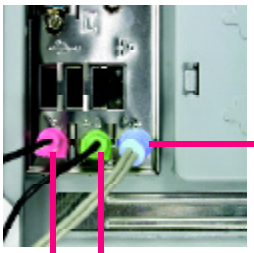
English

Basic 6 Channel Analog Audio Output Mode

Use the back audio panel to connect the audio output without any additional module.

STEP 1 :

Connect the front channels to "Line Out",the rear channels to "Line In", and the Center/Subwoofer channels to "MIC In".



STEP 2 :

After installation of the audio driver, you'll find an icon on the taskbar's status area. Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.

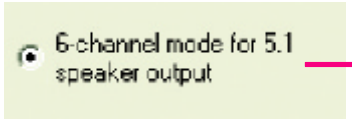


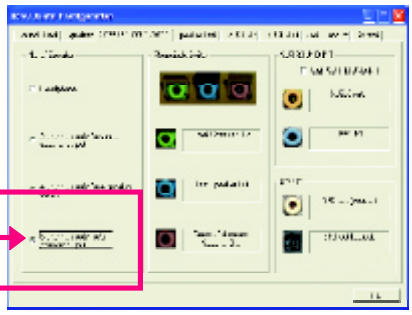


STEP 3 :

Select "Speaker Configuration", and choose the "6 channel for 5.1 speakers out put".

Disable "Only SURROUND-KIT" and pess "OK".

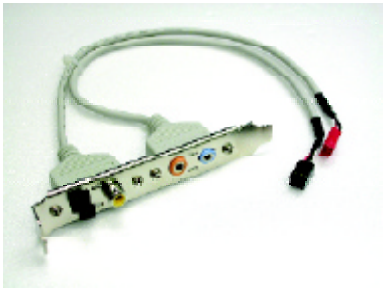




Advanced 6 Channel Analog Audio Output Mode (using Audio Combo Kit,Optional Device):

(Audio Combo Kit provides SPDIF output port : optical & coaxis and SURROUND-KIT : Rear R/L & CEN /Subwoofer)

SURROUND-KIT access analog output to rear channels and Center/Subwoofer channels. It is the best solution if you need 6 channel output, Line In and MIC at the same time. "SURROUND-KIT" is included in the GIGABYTE unique "Audio Combo Kit" as picture.



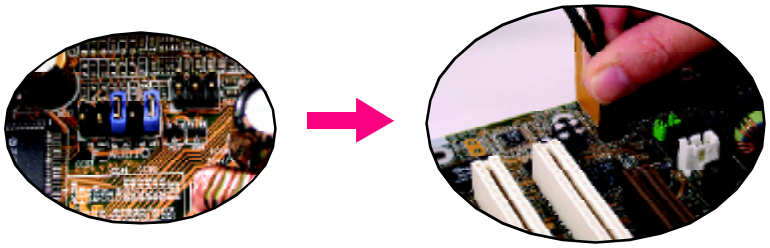
STEP 1 :

Insert the "SURROUND-KIT" in the back of the case ,and fix it with the screw.



STEP 2 :

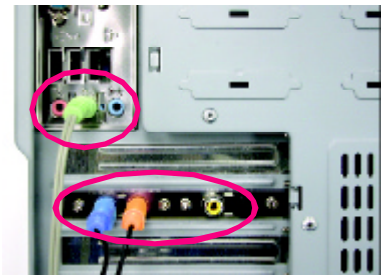
Connect the "SURROUND-KIT" to SUR_CEN on the M/B.



English

STEP 3 :

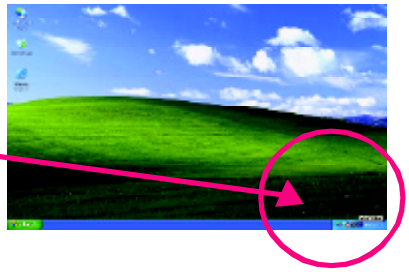
Connect the front channels to back audio panel's "Line Out", the rear channels to SURROUND-KIT's REAR R/L, and the Center/Subwoofer channels to SURROUND-KIT's SUB CENTER.



STEP 4 :

Click the audio icon "Sound Effect" from the windows tray at the bottom of the screen.

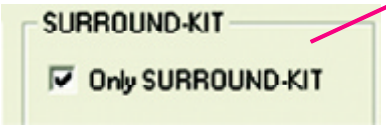


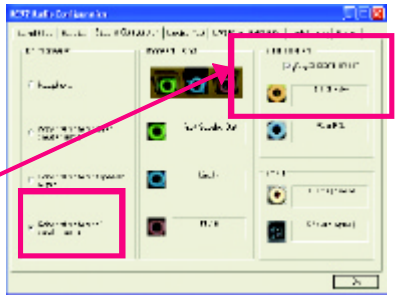


STEP 5 :

Select "Speaker Configuration", and choose the "6 channels for 5.1 speakers out put".

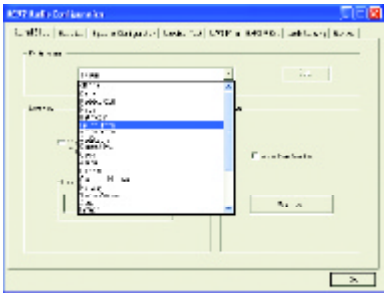
Enable "Only SURROUND-KIT" and press "OK".





Basic & Advanced 6 Channel Analog Audio Output Mode Notes:

When the "Environment settings" is "None", the sound would be performed as stereo mode(2 channels output). Please select the other settings for 6 channels output.



SPDIF Output Device (Optional Device)

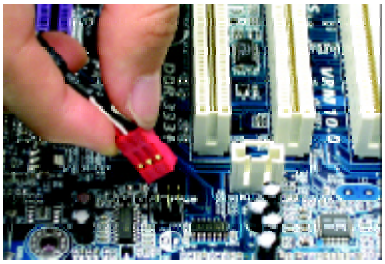
A "SPDIF output" device is available on the motherboard. Cable with rear bracket is provided and could link to the "SPDIF output" connector (As picture.) For the further linkage to decoder, rear bracket provides coaxial cable and Fiber connecting port.



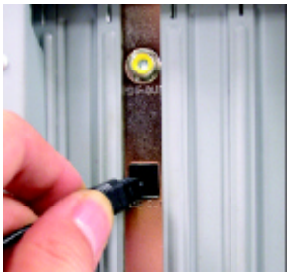
1. Connect the SPDIF output device to the rear bracket of PC, and fix it with screw.



2. Connect SPDIF device to the motherboard.



3. Connect SPDIF to the SPDIF decoder.



English

Jack-Sensing Introuction

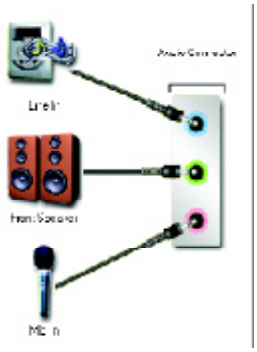
Jack-Sensing provides audio connectors error-detection function.

Install Microsoft DirectX8.1 before to enable Jack-Sensing support for Windows 98/98SE/2000 /ME.

Jack-Sensing includes 2 parts: AUTO and MANUAL. Following is an example for 2 channels (Windows XP):

Introduction of audio connectors

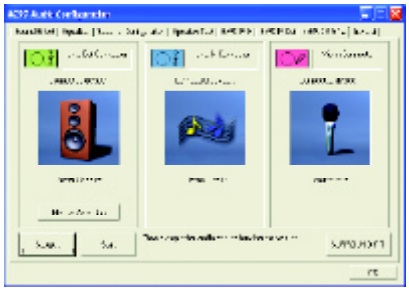
You may connect CDROM, Walkman or others audio input devices to Line In jack, speakers, earphone or others output devices to Line Out jack, and microphone to MIC In jack.



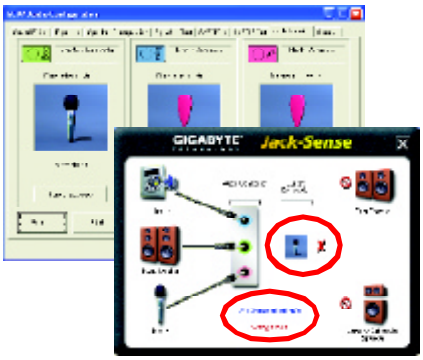
Auto-detecting:

Please connect the devices to the right jacks as above. A window will appear as right picture if you setup the devices properly.

Please note that 3D audio function will only appear when 3D audio inputs.

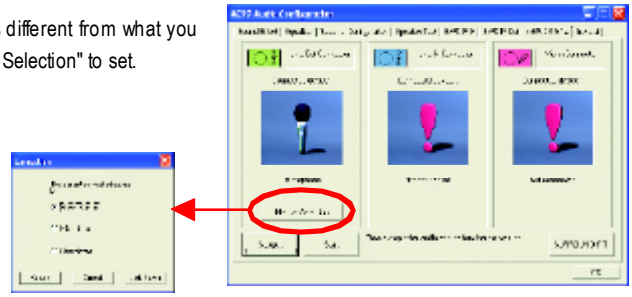


If you set wrong with the connectors, the warning message will come out as right picture.



Manual setting:

If the device picture shows different from what you set, please press "Manual Selection" to set.



English

Chapter 5 Appendix

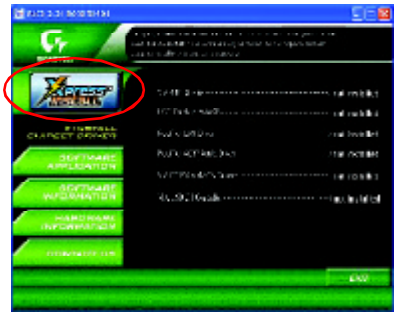
Install Drivers

Picture below are shown in Windows XP (CD ver 2.21)

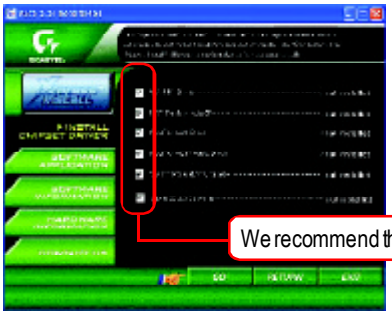
Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

INSTALL CHIPSET DRIVER

This page shows the drivers that need to be installed for the system. Click each item to install the driver manually or switch to the  to install the drivers automatically.



The "Xpress Install" uses the "Click and Forget" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The  will finish the installation for you automatically.



Massage: Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.

English



Driver install finished !
You have to reboot system !

Item Description

- VIA 4IN1 Driver
  For INF, AGP, IDE and DMA Driver
- USB Path for WinXP
  This patch driver can help you to resolve the USB device wake up S3 hang up issue in XP
- RealTek LAN Driver
  RealTek 10/100 LAN driver for 81xx series chips
- RealTek AC97 Audio Driver
  Audio driver for Realtek AC97 codec chipset
- VIA 8237 Serial ATA Driver
  For VIA 8237 SATA Driver
- VIA USB 2.0 Controller
  VIA USB 2.0 Host Controller use the inbox driver in Service Pack 1
  Please upgrade to Windows XP Service Pack 1 and rescan for hardware change in Device Manage.

For USB2.0 driver support under Windows XP operating system, please use Windows Service Pack. After install Windows Service Pack, it will show a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the question mark and restart the system (System will auto-detect the right USB2.0 driver).

SOFTWARE APPLICATION

This page reveals the value-added software developed by Gigabyte and its worldwide partners.



- Gigabyte Windows Utilities Manager(GWUM)
  This utility can integrate the Gigabyte's applications in the system tray
- Gigabyte Management Tool(GMT)
  A useful tool which can manage the computer via the network
- EastTune4
  Powerful utility that integrates the overclocking and hardware monitoring functions
- DMI Viewer
  Windows based utility which is used to browse the DMI/SMBIOS information of the system
- Face-Wizard
  New utility for adding BIOS logo
- @BIOS
  Gigabyte windows flash BIOS utility
- Acrobate-Book
  Useful utility from Adobe
- AcrobatReader
  Popular utility from Adobe for reading .PDF file format documents
- Norton Internet Security(NIS)
  Integrated utility which includes anti-virus, ad control, etc.
- DirectX 9.0
  Newest update from Microsoft

.

English

SOFTWARE INFORMATION

This page list the contects of softwares and drivers in this CD title.



HARDWARE INFORMATION

This page lists all device you have for this motherboard.



CONTACT US

Contact us via the information in this page all over the world.



FAQ

Below is a collection of general asked questions. To check general asked questions based on a specific motherboard model, please log on to http://tw.giga-byte.com/faq/faq.htm.

Question 1: I cannot see some options that were included in previous BIOS after updating BIOS. Why?
Answer: Some advanced options are hidden in new BIOS version. Please press "Ctrl" and "F1" keys after entering BIOS menu and you will be able to see these options.

Questions 2: Why is the light of my keyboard/optical mouse still on after computer shuts down?
Answer: In some boards, a small amount of electricity is kept on standby after computer shuts down and that's why the light is still on.

Question 3: Why cannot I use all functions in EasyTune™4?
Answer: The availability of the listed functions in EasyTune™4 depends on the MB chipset. If the chipset doesn't support certain functions in EasyTune™4, these functions will be locked automatically and you will not be able to use them.

Question 4: Why do I fail to install RAID and ATA drivers under Win 2000 and XP on boards that support RAID function after I connect the boot HDD to IDE3 or IDE4 ?
Answer: First of all, you need to save some files in the CD-ROM to a floppy disk before installing drivers. You also need to go through some rather different steps in the installation process. Therefore, we suggest that you refer to the installation steps in the RAID manual at our website. (Please download it at http://tw.giga-byte.com/support/user_pdf/raid_manual.pdf)

English

Question 5: How do I clear CMOS?

Answer: If your board has a Clear CMOS jumper, please refer to the Clear CMOS steps in the manual. If your board doesn't have such jumper, you can take off the on-board battery to leak voltage to clear CMOS. Please refer to the steps below:

Steps:

1. Turn off power.
2. Disconnect the power cord from MB.
3. Take out the battery gently and put it aside for about 10 minutes (Or you can use a metal object to connect the positive and negative pins in the battery holder to make them short for one minute).
4. Re-insert the battery to the battery holder.
5. Connect power cord to MB again and turn on power.
6. Press Del to enter BIOS and load Fail-Safe Defaults.
7. Save changes and reboot the system.

Question 6: Why does system seem unstable after updating BIOS?

Answer: Please remember to load Fail-Safe Defaults (Or Load BIOS Defaults) after flashing BIOS. However, if the system instability still remains, please clear CMOS to solve the problem.

Question 7: Why do I still get a weak sound after turning up the speaker to the maximum volume?

Answer: Please make sure the speaker you are using is equipped with an internal amplifier. If not, please change another speaker with power/amplifier and try again later.

Question 8: How do I disable onboard VGA card in order to add an external VGA card?

Answer: Gigabyte motherboards will auto-detect the external VGA card after it is plugged in, so you don't need to change any setting manually to disable the onboard VGA.

Question 9: Why cannot I use the IDE 2?

Please refer to the user manual and check whether you have connected any cable that is not provided with the motherboard package to the USB Over Current pin in the Front USB Panel. If the cable is your own cable, please remove it from this pin and do not connect any of your own cables to it.

Question 10: Sometimes I hear different continuous beeps from computer after system boots up. What do these beeps usually stand for?

Answer: The beep codes below may help you identify the possible computer problems. However, they are only for reference purposes. The situations might differ from case to case.

→AMI BIOS Beep Codes

*Computer gives 1 short beep when system boots successfully.

*Except for beep code 8, these codes are always fatal.

1 beep Refresh failure
2 beeps Parity error
3 beeps Base 64K memory failure
4 beeps Timer not operational
5 beeps Processor error
6 beeps 8042 - gate A20 failure
7 beeps Processor exception interrupt error
8 beeps Display memory read/write failure
9 beeps ROM checksum error
10 beeps CMOS shutdown register read/write error
11 beeps Cache memory bad

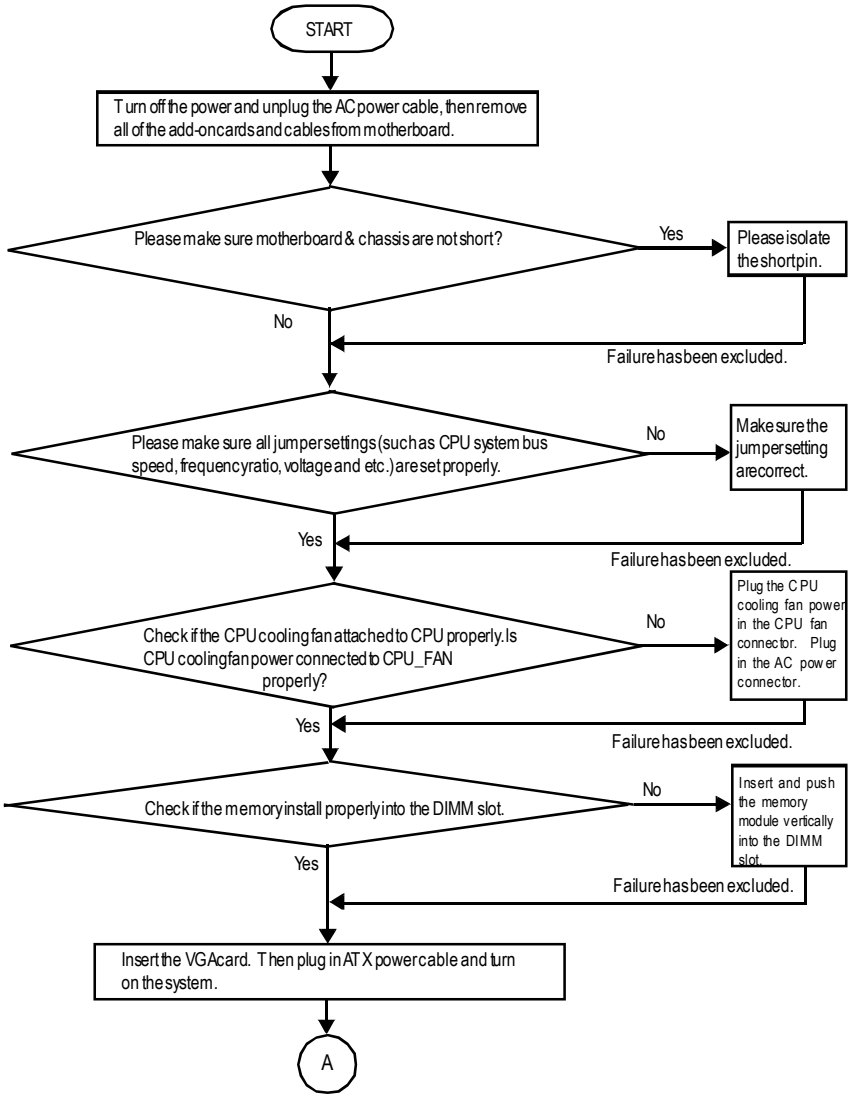
→ AWARD BIOS Beep Codes

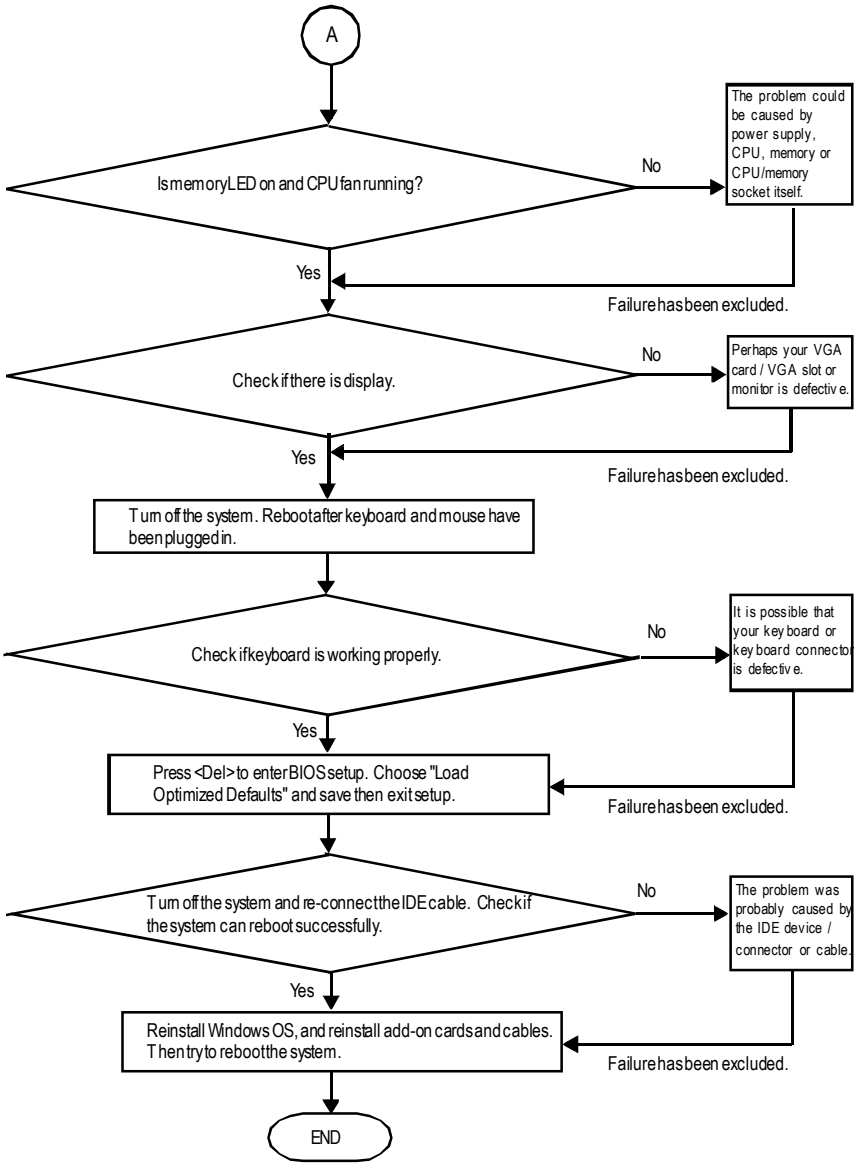
1 short: System boots successfully
2 short: CMOS setting error
1 long 1 short: DRAM or M/B error
1 long 2 short: Monitor or display card error
1 long 3 short: Keyboard error
1 long 9 short: BIOS ROM error
Continuous long beeps: DRAM error
Continuous short beeps: Power error

English

Troubleshooting

If you encounter any trouble during boot up, please follow the troubleshooting procedures.





If the above procedure unable to solve your problem, please contact with your local retailer or national distributor for help. Or, you could submit your question to the service mail via Gigabyte website technical support zone (http://www.gigabyte.com.tw). The appropriate response will be provided ASAP.

English

Technical Support/RMA Sheet

Customer/Country:	Company:	Phone No.:
ContactPerson:	E-mail Add. :	

Modelname/Lot Number:	PCB revision:
BIOS version:	O.S./A.S.:

Hardware Configuration	Mfs.	Modelname	Size:	Driver/Utility:
CPU				
Memory Brand				
Video Card				
Audio Card				
HDD				
CD-ROM / DVD-ROM				
Modem				
Network				
AMR / CNR				
Keyboard				
Mouse				
Power supply				
Other Device				

Problem Description:

Appendix E: Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communications Riser
BIOS	Basic Input / Output System
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRM	Dual Retention Mechanism
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCD	Extended System Configuration Data
ECC	Error Checking and Correcting
EMC	Electromagnetic Compatibility
EPP	Enhanced Parallel Port
ESD	Electrostatic Discharge
FDD	Floppy Disk Device
FSB	Front Side Bus
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network

to be continued.....

English

Acronyms	Meaning
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Instrument Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory
SMP	Symmetric Multi-Processing
SMI	System Management Interrupt
USB	Universal Serial Bus
VID	Voltage ID

English

CONTACT US

Contact us via the information in this page all over the world.

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FAX: 886 (2) 8912-4004

Technical issue:

http://tw.giga-byte.com/support/service_main.htm

Non-Technical issue:

smsupport@gigabyte.com.tw

Web Address: http://www.gigabyte.com.tw

- USA

G.B.T. INC.

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Tel: 1 (626) 854-9338

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Fax: 49-01803-428329 (Tech.)

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Web Address: www.gigabyte.co.jp

- U.K

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Fax: 44-1908-362709

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Fax: 86-20-87544306

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86-10-82856094

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